

# Bristol



ENVIRONMENTAL  
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## TECHNICAL MEMORANDUM

DATE: September 23, 2016  
TO: Bob Egan, SME, EPA Region 5  
FROM: Matt Faust, Project Manager  
Bristol Environmental Remediation Services, LLC  
RE: EPA Contract No. EP-W-12-009, Task Order (TO) 3012  
Tower Standard Site, Lac du Flambeau Reservation, Wisconsin  
August 2016 Site Investigation, Rev 0

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The U.S. Environmental Protection Agency (EPA) retained Bristol Environmental Remediation Services, LLC (Bristol) to prepare this technical memorandum (tech memo) under EPA Contract EP-W-12-009, Task Order (TO) 3012. This tech memo briefly summarizes site activities conducted in August 2016, at a leaking underground storage tank (LUST) site in Lac du Flambeau, Wisconsin, on the Lac du Flambeau (LDF) Reservation (Figure 1). The site is referred to as the Tower Standard Site.

Unless otherwise noted, all work was performed in compliance with the Quality Assurance Project Plan (Bristol, 2016a), Site Investigation Work Plan (Bristol, 2016b), and Site Safety and Health Plan (Bristol, 2016c).

Figures are included as Attachment 1, field notes and forms are included as Attachment 2, well construction diagrams are included as Attachment 3, tabulated laboratory analytical results are included as Attachment 4, the laboratory analytical report is included as Attachment 5, the data verification report is included as Attachment 6, and waste disposal paperwork is included as Attachment 7.

## SITE ACTIVITIES

On August 3, 2016 to August 5, 2016, Bristol subcontractor Coleman Engineering Company (CEC) installed two monitoring wells (MW-16E and MW-21M) using hollow stem auger drilling technology. In order to minimize issues with flowing sands, and because lithology at the site is relatively well established, CEC drilled to depth without collecting soil samples for lithology characterization or laboratory analysis. The wells were installed in monitoring well nests MW16 and MW21 (Figure 2), resulting in two monitoring well nests consisting of three monitoring wells each. Prior to the August 2016 activity, each monitoring well nest consisted of two monitoring wells.

The first well, MW-16E, was installed to a depth of 60 feet below the ground surface (bgs) and the screen was set from 55 to 60 feet bgs (Attachment 3). The second monitoring well, MW-21M, was installed near the MW-21 well nest to a depth of 30 feet bgs; the screen was set from 25 to 30 feet bgs based on consultation with the EPA Subject Matter Expert (Bob Egan) and LDF tribal representative (Kristen Hanson) who were both on site during the site activities.

Following installation, the two new monitoring wells were developed by CEC using a surge and purge technique.

On August 8 and 9, Bristol collected groundwater samples from all six monitoring wells in the MW-16 and MW-21 well nests (including the two new wells and four previously existing wells) using a bladder pump and low flow sampling techniques. Groundwater sampling forms are included in Attachment 2.

Bristol delivered the samples to Pace Analytical Services, Inc. (Pace) in Minneapolis, Minnesota, for analysis of volatile organic compounds (VOCs), ethylene dibromide (EDB), sulfate, sulfide, hydrogen sulfide, nitrate, nitrite and the eight Resource Conservation and

Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) plus iron and manganese. Groundwater sample information is presented in Table 1.

**Table 1 Laboratory Analytical Groundwater Sample Information**

Date Collected	Time Collected	Well ID	Screen Depth (feet BTOC)	Sample ID
8/8/2016	1055	MW-16	1.4 - 11.4	1608TOWERMW16
8/8/2016	1300	MW-16D	37 – 42	1608TOWERMW16D
8/8/2016	1330			1608TOWERMW18D <sup>†</sup>
8/9/2016	0900	MW-16E	55 – 60	1608TOWERMW16E
8/9/2016	1120	MW-21	4.5 – 14.5	1608TOWERMW21
8/9/2016	1300	MW-21M	25 – 30	1608TOWERMW21M
8/9/2016	1450	MW-21D	35 - 40	1608TOWERMW21D

Notes:

† = indicates duplicate sample

BTOC = below the top of casing

ID = identification

All soil cuttings and well development and purge water were containerized in 55-gallon drums (four soil drums and 11 water drums) and temporarily staged behind the bait shop (former service station building) located on the site. On August 8, the property owner contacted the EPA to inform them that the drums had been placed on top of a shallow septic system and to request that the drums be moved as soon as possible. Bristol contracted with SGS Environmental Contracting, LLC (SGS) of Merrill, Wisconsin, to transport the drums off site for proper disposal. SGS mobilized to the site on August 9 and transported the drums to their facility to await analytical results. Once analytical results were received, SGS disposed of the soil drums at the Lincoln County Landfill in Merrill. The drums of purge and development water are still staged at SGS's facility along with waste from other projects; once SGS has accumulated sufficient aqueous waste, they will arrange for Covanta

Environmental Solutions of Winneconne, Wisconsin, to dispose of the purge and development water. Waste disposal paperwork for the soil drums is included as Attachment 7.

## **RESULTS**

Select groundwater analytical results are presented on Figure 3 in Attachment 1. Full analytical results are summarized on the table included as Attachment 4, the laboratory analytical report is included as Attachment 5, and the data verification report is included as Attachment 6.

The primary evaluation criteria to which groundwater results were compared were the LDF Tribe's Groundwater Cleanup Standards (LDF, 2008). For analytes for which LDF Groundwater Cleanup Standards are not established, results were compared to EPA Maximum Contaminant Levels (MCLs) established by the Safe Drinking Water Act (EPA, 1974). Preventative Action Limits established by Wisconsin Administrative Code are also presented on figures and tables, for reference purposes only.

Groundwater samples collected in August 2016 exceeded evaluation criteria for benzene, ethylbenzene, naphthalene, toluene, and total trimethylbenzenes.

Benzene was detected in samples collected from all six wells, ranging in concentration from an estimated 0.75 micrograms per liter ( $\mu\text{g}/\text{L}$ ) at MW-16 to 2,150  $\mu\text{g}/\text{L}$  at MW-21M. Benzene exceeded evaluation criteria (5  $\mu\text{g}/\text{L}$ ) in samples collected from five of the six wells (MW-16D, MW-16E, MW-21, MW-21M, and MW-21D).

Ethylbenzene was detected in samples collected from five of the six wells, ranging in concentration from 8.1  $\mu\text{g}/\text{L}$  at MW-21D to 1,700  $\mu\text{g}/\text{L}$  at MW-21. Ethylbenzene exceeded evaluation criteria (700  $\mu\text{g}/\text{L}$ ) in samples collected from two of the six wells (MW-21 and MW-21M).

Naphthalene was detected in samples collected from five of the six wells, ranging in concentration from 4.9 µg/L at MW-21D to 703 µg/L at MW-21. Naphthalene exceeded evaluation criteria (40 µg/L) in samples collected from three of the six wells (MW-16D, MW-21, and MW-21M).

Toluene was detected in samples collected from five of the six wells, ranging in concentration from 6.1 µg/L at MW-16E to 3,280 µg/L at MW-21. Toluene exceeded evaluation criteria (1,000 µg/L) in samples collected from two of the six wells (MW-21 and MW-21M).

Trimethylbenzenes were detected in samples collected from five of the six wells. Total trimethylbenzenes ranged in concentration from 38.8 µg/L at MW-21D to 3,664 µg/L at MW-21. Total trimethylbenznes exceeded evaluation criteria (480 µg/L) in samples collected from two of the six wells (MW-21 and MW-21M).

## **NATURE AND EXTENT OF CONTAMINATION**

The groundwater flow direction at the site is generally towards the south-southeast (at the water table) or south-southwest (at depth) (Bristol, 2016d).

As only wells from the MW-16 and MW-21 well nests were sampled in August 2016, it is difficult to make conclusions regarding the lateral extent of groundwater contamination that exceeds evaluation criteria. However, historically samples collected from the MW-17, MW-18, and MW-22 wells nests have been below evaluation criteria, thus the extent of contamination towards the northwest (cross gradient) is fairly well defined. The extent of contamination to the northeast (up-gradient), east (cross gradient), and south (down gradient) remains poorly defined.

At the MW-21 well nest, contaminant concentrations were generally highest in samples collected from MW-21 (screened across the water table from 4.5 to 14.5 feet bgs), followed

by MW-21M (screened from 25 to 30 feet bgs), and lowest in samples collected from MW-21D (the deepest well, screened from 35 to 40 feet bgs). A notable exception to this distribution is benzene, which was detected at the highest concentration in the sample collected from MW-21M and the lowest in the sample collected from MW-21D.

At the MW-16 well nest, contaminant concentrations were generally highest in samples collected from MW-16D (the middle depth well, screened from 37 to 42 feet bgs), followed by MW-16E (screened from 55 to 60 feet bgs), and lowest in samples collected from MW-16 (screened across the water table from 1.4 to 11.4 feet bgs).

Though they were not sampled in August 2016, during previous sampling events at the MW-19 and MW-20 well nests, contaminant concentrations have been higher in the wells screened at depth (35 to 40 and 20 to 25 feet bgs, respectively) than in shallow wells screened across the water table.

## **RECOMMENDATIONS**

The State of Wisconsin's Petroleum Environmental Cleanup Fund Award (PECFA) contractor performed a membrane interface probe/hydraulic profiling tool (MiHpt) investigation at the site between July 11 and 14, 2016. The LDF Tribe performed a laser-induced fluorescence (LIF) investigation at the site on September 7 and 8, 2016. Bristol has contracted with S<sub>2</sub>C<sub>2</sub>, Inc. of Raritan, New Jersey, to generate a three-dimensional model of the contaminant plume at the site, incorporating data collected during the MiHPT and LIF investigations, as well as soil and groundwater analytical data. Bristol is currently preparing another technical memorandum that will present the results of the modeling activities, as well as recommendations for remedial activities for the site.

Additional site characterization is also recommended for this site. The northern, eastern, and southern extents of the groundwater plume are poorly defined at this time. The results of the

MiHpt study may help define the plume, though it is presumed that a number of additional monitoring wells will be required. Given the nature of the “diving” groundwater plume at the site, well nests should be installed with wells (at least two) screened at multiple depths.

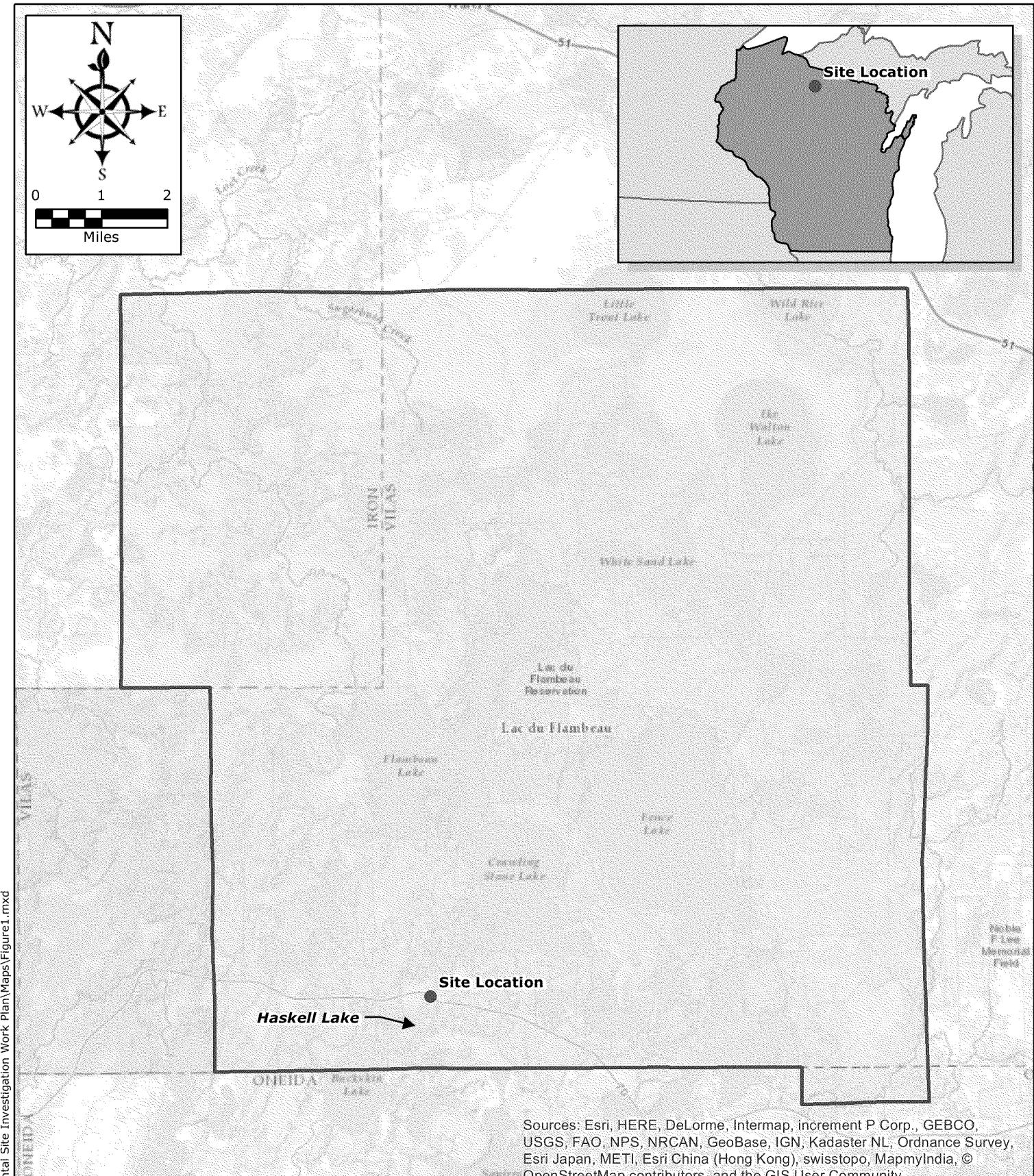
It is likely not possible to define the down gradient extent of the groundwater plume with permanent monitoring wells, as the plume has been shown to extend at least to the shore of Haskell Lake. Potential impacts to Haskell Lake can be investigated by collected pore water samples in the lake sediment. It is recommended that this work be performed in the winter when ice thickness is sufficient to support drilling equipment.

## **REFERENCES**

- Bristol Environmental Remediation Services, LLC (Bristol). (2016a). Quality Assurance Project Plan. Revision 0. LUST Sites in Indian Country, EPA Region 5: EPA.
- Bristol. (2016b). Site Investigation Work Plan, Tower Standard LUST Site. Revision 1. Task Order 3012. Lac du Flambeau Reservation: EPA.
- Bristol. (2016c). Site Safety and Health Plan, Tower Standard LUST Site. Revision 1. Task Order 3012. Lac du Flambeau Reservation: EPA.
- Bristol. (2016d). Tower Standard Site Groundwater Contour Maps. Revision 0. Task Order 2012. Lac du Flambeau Reservation: EPA.
- Lac du Flambeau Tribe. (2008). Tribal Code, Section 2, Chapter 200, Hazardous Substance Control Code. Website: <https://www.ldftribe.com/Court%20Ordinances.php>.
- U.S. Environmental Protection Agency (EPA). (1974). Safe Drinking Water Act. 42 United States Code 6A.

**ATTACHMENT 1**

Figures



Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

#### Legend

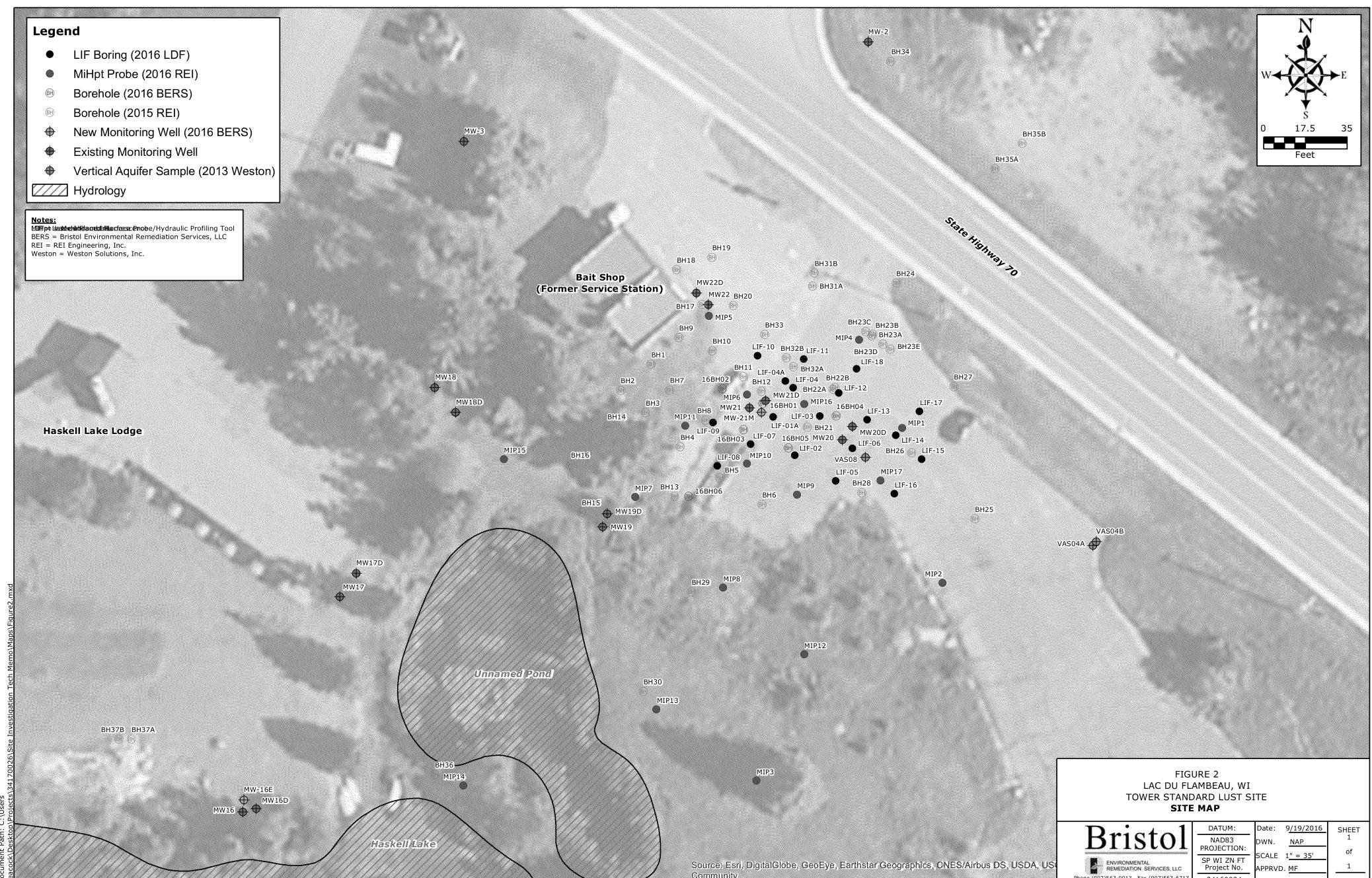
- Site Location
- Lac du Flambeau Indian Reservation

**FIGURE 1**  
**LAC DU FLAMBEAU, WI**  
**EPA TASK ORDER 3012 TOWER STANDARD LUST SITE**  
**LOCATION MAP**

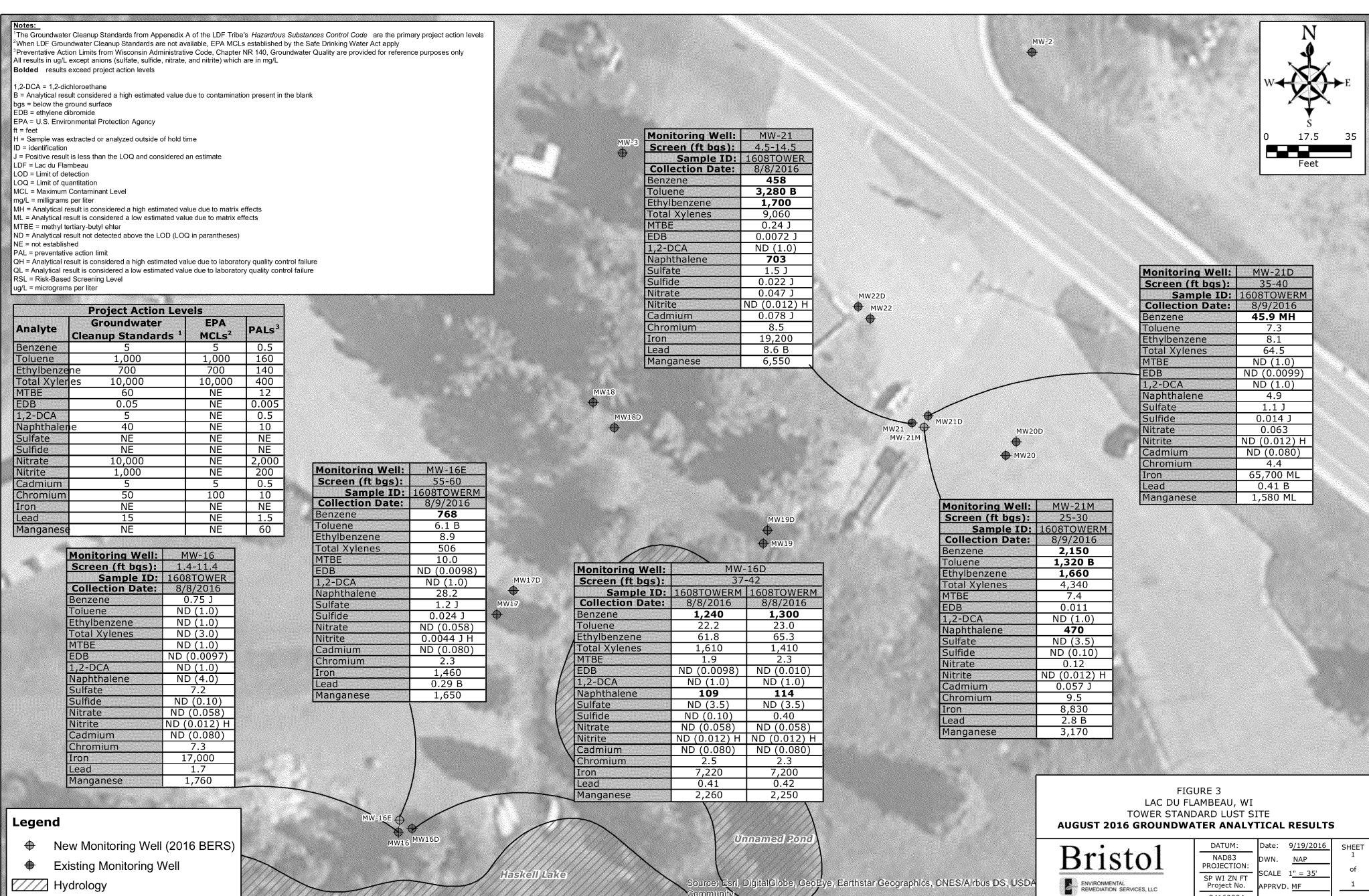
**Bristol**  
ENVIRONMENTAL  
REMEDIATION SERVICES, LLC  
Phone (907)563-0013 Fax (907)563-6713

34170026

DATUM:	Date:	7/28/2016	SHEET
NAD83	DWN.	NAP	1
PROJECTION:			of
SP WI ZN FT	SCALE	1" = 2 mi	1
Project No.	APPRVD.	MF	



EPA-R5-2017-010506\_0002778



**ATTACHMENT 2**  
Field Book and Field Forms

**INCH**



Name Robert Beckman  
Bristol Environmental  
Address 41 W. 10<sup>th</sup> Ave  
Anchorage, AK 99501  
Phone 907-830-7105

Project EPA Tower Standard Site  
Lac du Flambeau, Wisconsin  
EPA Contract # EP.W.12-009  
TO 3012 Bristol PA 3417002U

**Clear Vinyl Protective Slipcovers (Item No. 30) are available for this style of notebook. Helps protect your notebook from wear & tear. Contact your dealer or J.L. Darlin LLC.**

P# 341700260  
TOWER

2 August 2, 2010 R. Beckman  
0315 - C Anchorage Airport, flying  
to Minneapolis, MN and  
driving to Marinette, WI  
to install 2 MW's +  
samples to MWS.  
1400 - (MW time) picked up  
rental car, headed to  
Marinette.  
1930 - Checked into Quality Inn,  
meeting drillers onsite  
between 1030-1100, tomorrow,  
8/3/10.  
End of day.

RFB 8/2/10.

R. Beckman P# 341700260  
TOWER

3 August 3, 2010  
75°F, sunny  
0915 - gathering samples,  
headed to site to locate  
well locations, wait for  
drillers.  
0945 - Introduced self to ledge  
operators, found well  
locations, working for  
subs USGS & Kristen  
Hansen w/ LDR to be  
assile.  
1015 - Toured site w/ Kristen,  
located wells &  
prepared well locations.  
1045 - Walked site w/ drillers  
(CEC). will start w/  
less contaminated well  
(assumed MW10E). ~  
100' bgs, to top of  
bedrock.  
1215 - Setting up @ MW10E  
1245 - began drilling  
0-5' - Sand /W organics  
6' & some cobble.  
5-10' - Sandy, gravel. Brown.  
dry.

RTS in the SP 11/14

<sup>4</sup>  
8/3/16

Tower

# 34170026

- 0-10' - Sandy, moist, w/  
occasional gravel. Brown.  
8-10' slight refusal.  
10-15' = Sand w/ gravel,  
wet. Brownish-Sney.  
15-20' - Sand w/ gravel.  
wet, Brown. w/  
cobbles / boulders (?)  
Drilling slowed, hitting  
refusal.  
C 20' hit refusal.  
20-25' - Sandy w/ gravel.  
moist, grey brown.  
25-30' = Same, as T. Broke  
second "key", first  
one broke C ~15' bgs.  
"key" = broken key  
1510 - Ordered from CEC additional  
drill keys, will be down  
today. Only 2 keys left  
on site. Pulling auger, replacing  
bit. Will see if this acquisition  
bit will drill through boulder  
better.

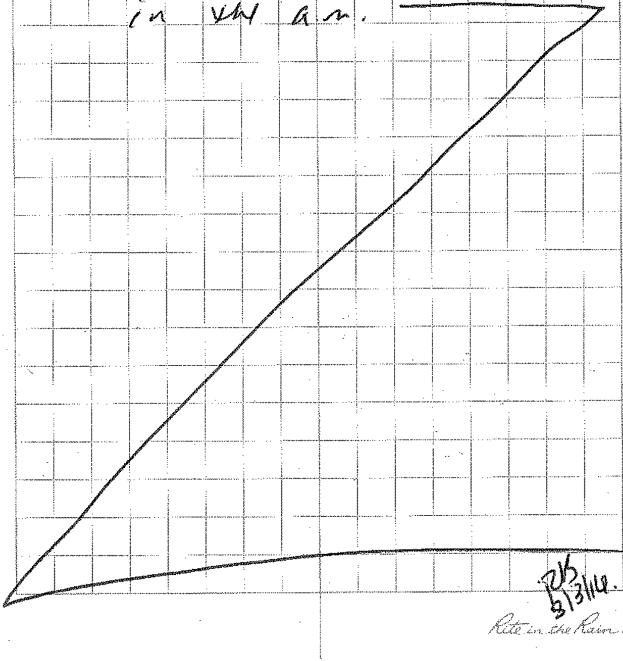
<sup>5</sup>  
8/3/16

# 34170026

Tower

<sup>5</sup>  
8/3/16

- 1630 - Pulled auger, large rock  
stuck in bit. Approximating  
end of day. Will  
re-drill 30' B auger  
in existing boring and  
finish well in the a.m.  
1800 - End of day, will cont.  
drilling C 30' bgs  
in AM. —



<sup>5</sup>  
8/3/16

<sup>5</sup>  
8/3/16

PE 34170026 R.Rockman

<sup>6</sup>  
August 1, 2014 TOWER Cloudy, 30°C  
0700 - Onsite, calibrated 1ST <sup>run</sup>,  
w/in range. See equipment  
log for details.  
0730 - Continuing to drill & review.  
30-35' = Sandy, w/ gravel  
moist. Very rocky.  
35-40' = same ↑, very little  
cuttings produced.  
mostly cobbles /  
boulders (assumed).  
40-45' = mostly rock, no cuttings.  
Bob Egan onsite.  
45-50' = mostly rock, no cutting.  
50'-55' = ↑ same ↑  
55'-60' = ↑ same ↑  
60-65' = ↑ same ↑  
0920 - C 65.2' (2) hit assumed  
bedrock, drill will not advance  
further. Prepping to set  
well. Completing with 5' screen.  
No cuttings produced from  
this well today.  
1040 - Thunder & rain. Stop  
work until weather.

ref.  
8/4/14

PE 34170026

Tower

8/4/14

lets up Per Kristen,  
Thunder storm moving  
in effect for next  
3 hours.  
1230 - ~ 10' of fill & bottom  
of well, using split  
spoon to remove sand  
& bottom of well.  
Split spoon removed  
~ 2.5' of coarse sand.  
1300 - Two full split spoons  
removed, sand keeps  
filling holes, ditch  
flushing horizon w/  
wash to remove sediment  
Proposed flushing 50  
gallons of water.  
1405 - Split spoon stuck in  
2' from bottom & half  
CC all nipples to  
dislodged.  
1430 - Got split spoon removed  
w/ flattened PVC &  
~ 10 gallons of water.

Rite in the Rain

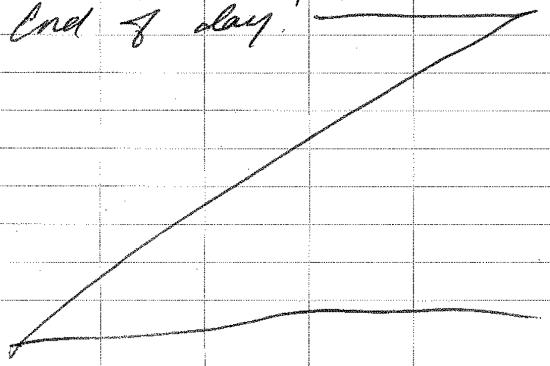
8/4/16

PT 34170026

Tower

Currently 60' of auger  
in the ground ~ w/ 1  
3' of sand in the bottom  
of the auger.

- 1740 - Flushed out sand from  
well and was able to  
push and place C bottom  
(which had been pushed  
up ~ 3'). ~ 200 gallons flushed.  
1930 - Set well C 60' bgs, placed  
sand and some pentonite  
clips. Will mix grout  
tomorrow morning and  
complete well. Produced  
~ 250 gallons of 10K  
water circulating well.  
End of day.



JK  
8/4/16

R Beckman PT 34170026

Sunny, 65° Tower

8/5/16

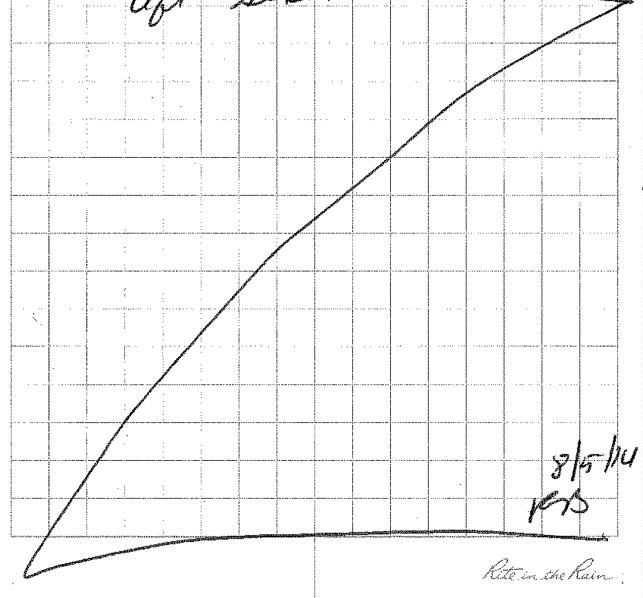
- 0645 - Outside water main P  
0700 - Well began gushing  
this morning  
0730 - Cannot get front rod  
down past 47' bgs,  
driller pulling auger  
up, hoping sand slides  
down.  
0835 - Pulled 5' of auger up  
and excluded sand  
fell out of auger.  
1005 - All auger pieces removed,  
well grouted. Will complete  
W) flush mount finish  
after MW-21 is installed.  
1115 - Moving north to ~~MW21M~~  
location.  
1200 - Kristen taking drillers  
to refill water tank up.  
1330 - Drillers back outside, filled  
500 gallon water tank.  
Setting up C MW21M  
1405 - Began drilling  
0-5' - sandy gravel dry, brown  
gravelly sand

10/16  
8/5/16

10  
 P# 34170026  
 8/5/16 Tower 8/5/16  
 5'-10' = Scarpy sandy gravel,  
 dry, reddish brown.  
 @ 8-10' => fine sand,  
 dry, brown.  
 10-15' => Gravelly sand w/  
 fines, light brown,  
<sup>8"</sup> moist. Mod. H.C. odor.  
 12-15' silty sand,  
 gray brown.  
 15-20' => silty sand w/  
 gravel gray brown.  
 20-20' = more gray.  
 strong odor, H.C.  
 20-25' => 20-23 = silty sand,  
 moist, gray.  
 23-25' = silty sand,  
<sup>wet</sup> saturated, brown.  
 25'-30' => silty sand w/  
 gravel. Brown. Wet.  
 H.C. odor.  
 15' 45" Setting well. Placing  
 screen from 25'-30' bgs,  
 per request of Kristen  
 Hamner.

MB  
 3/5/16

P# 34170026  
 Tower 8/5/16  
 1700' Well placed, and  
 grouted in place. Will  
 allow back wells to  
 sit for at least 12  
 hours before dewatering.  
 Will dewater wells on  
 8/6/16.  
 1735 - CEC dewatering augers  
 and cleaning by self.  
 left side.



8/5/16  
 RTD  
 Rate in the Rain.

P# 341700214

Sonny, 30<sup>th</sup>

- 12 8/6/16 Tower R.Bicknell  
 0650 - Inside, darker than air @  
 0700 Well began developing  
 wells installed yesterday.  
 $MWLE = TD = 58.65'$   
 $DTW = 2.466'$   
 0745 - Began purge / surge of  
 $MWLE E.$  Water dark brown.  
 0750 -  $DTW = 5.5' btoc$   
 water cleared significantly  
 in first 5 minutes, will  
 continue cycle for a  
 minimum of 25 more  
 minutes. 20 gallons  
 purged so far.  
 0755 -  $DTW = 4.52 btoc$ . Purged  
 5 minutes.  
 0810 - Water clear, while  
 surging + purging.  
 Pumped 20 gallons.  
 0815 - Surging well.  $DTW = 4.46' btoc$   
 0820 - Purged 20 gallons,  
 water clear for all  
 20 gallons. Development  
 completed C MWLE.

P#  
8/6/16

P# 341700214

13

Tower

8/6/16

- 0830 - P MWZ/N.  $TD = 30.5' btoc$   
 $DTW = 7.41' btoc$   
 Surgeing well.  
 0835 - began purging, water  
 orange, semi-turbid.  
 0840 -  $DTW = 5.23' btoc$  purged  
 20 gallons. Surgeing for  
 ~3-5 minutes.  
 0845 - Water still turbid, red.  
 $DTW = 5.02' btoc$  began  
 purging.  
 0850 - Purged 10 gallons.  
 Still red, turbid.  
 Surgeing.  
 0855 - Began purging.  
 0905 - Purged 20 gallons,  
 still red, turbid.  
 Surgeing.  
 0910 - Surgeing. Slightly turbid,  
 orange.  
 0915 - Surgeing well, still orange  
 & turbid. Clearing up.  
 0930 - 10 gallons purged.  
 $DTW = 5.15' btoc$ .

P#  
8/6/16

<sup>14</sup>  
8/6/14

# 3417002L

TOWER

- 0940 - Surveying well. Water light orange, slightly turbid.
- 0945 - Purged 15 gallons. Clear, slightly turbid.
- Surveying well generates additional turbidity.

DTW = 6.89' btoc.

Continuing purging.

- 0955 - Almost clear, purged 10 gallons.
- 1005 - Purged 10 gallons, clear.

Finished developing.

MW10E = TD = 59.50' Final (BToc)

DTW = 5.38' final

MW21M = TD = 39.38' final

DTW = 9.73' final

Development weaker from

both wells smells of

H2S, MW21M = strong,

MW10E = moderate.

MW10E = 100 gallons purged

MW21M = 95 gallons purged.

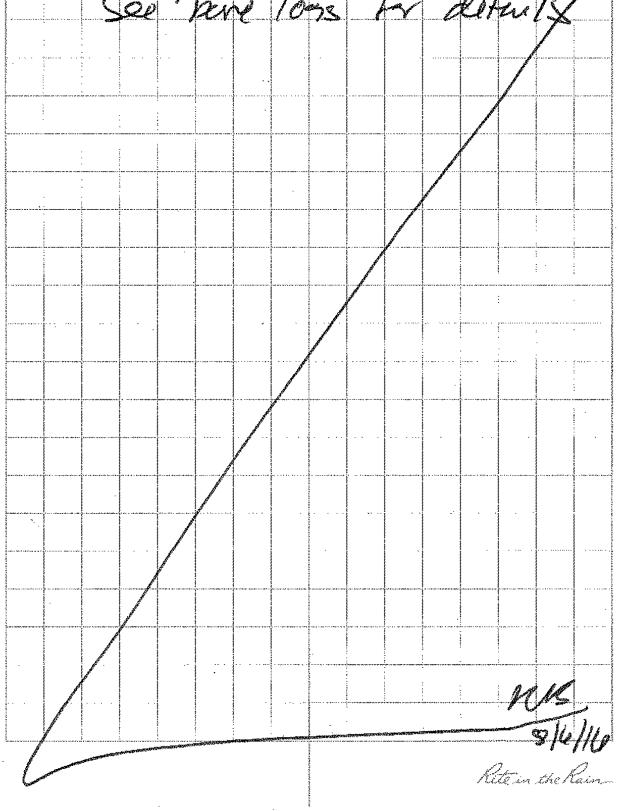
8/6/14  
RWS

# 3417002L

TOWER

<sup>15</sup>  
8/6/14

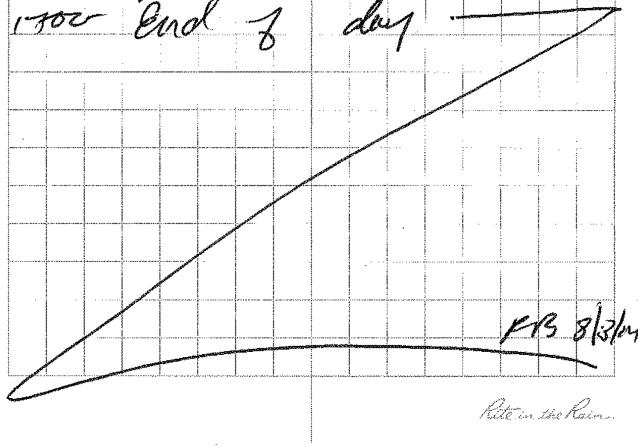
- 1230 - All wells installed, CEC packed up equipment & left site. NW begin sampling on 8/6/14. See bore logs for details.



16 105°F sunny p# 34170026  
 8/8/14 Tower R Beckman  
 06050 - Drilled, calibrated YSI-71  
 & turbidity meter. Within  
 range, see sequential log  
 for details. Waiting  
 for surveyor to agree.  
 Should be out by 0730.  
 0740 - Surveyor on site, so went  
 up to sample MW10  
 and 11A.  
 0945 - began purging MW10.  
 1115 - Collected samples from  
 MW10. Purged 1 hour  
 w/ 10nt turbidity  
 reading criterion.  
 Sample ID = 1608TOWER.MW10  
 Date / Time = 8/8/14 / 1055 -  
 1125 - Purging MW10D  
 1320 - Collected samples from  
 MW10D.  
 Sample ID = 1608TOWER.MW10D  
 Date / Time = 8/8/14 / 1320.  
 Dug ID = 1608TOWER.MW13D  
 Date / Time = 8/8/14 / 1330.  
 Collected the following

RB  
8/8/14

17 p# 34170026  
 Tower 8/8/14  
 from all samples:  
 • Volts • Metals • Nitrate  
 • GRO • Sulfate • Sulfide  
 • TDS • Nitrate  
 1420 - Reversing pumps, cleaned  
 up side by side. One 1  
 trip blank set will  
 hold vol's until  
 final shipment.  
 Will pack up samples  
 and ship to Pacet  
 in MN.  
 1025 - Samples FedEx to  
 Pacet.  
 1500 End of day



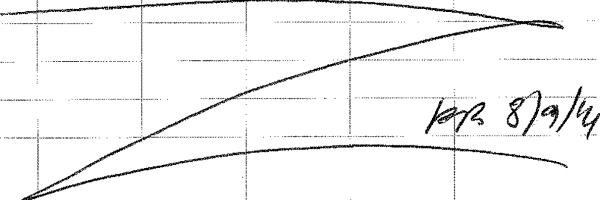
Rate in the Rain...

FB 8/3/14

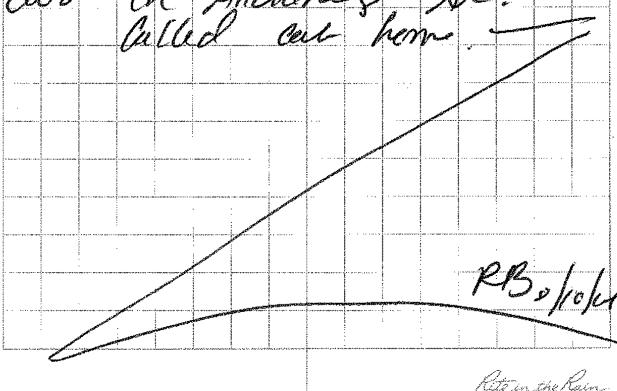
18  
 8/9/14 PF# 341700210  
 Tower R. Leckman  
 0700 Onsite, setting up C  
 MW10E.  
 0750 Began purging.  
 0930 Collected samples. All  
 parameters stable but  
 turbidity, purged 1 hour.  
 Sample ID = 1608 TOWER MW10E  
 Date / Time = 8/9/14 / 0900.  
 Reconnected pump, headed  
 to MW21 well next.  
 0930 Collected Equipment blank.  
 Blank ID = 1608 TOWERORS  
 Date / Time = 8/9/14 / 0930  
 1010 - C MW21, began purging.  
 1130 Collected samples. Purge  
 1 hour, all parameters  
 stable but turbidity.  
 Sample ID = 1608 TOWER MW21  
 Date / Time = 8/9/14 / 1120.  
 Reconnected pump.  
 1150 Began purging MW21M.  
 1200 - Collecting sample.  
 Sample ID = 1608 TOWER MW21M  
 Date / Time = 8/9/14 / 1200.  
 K  
 19  
 8/9/14

19  
 PF# 341700210  
 Tower 8/9/14  
 1315 Disconnected pump, wait  
 sample MW21D not 1.  
 1340 - Began purging MW21D.  
 1355 - Land owner onsite - 55-  
 gallon drums from  
 well contamination +  
 Sampling area on  
 owners septic system.  
 EPA / Bristol workers  
 to find contractor to  
 move drums. 15 drums  
 onsite.  
 1450 Collected samples, plus  
 MS / MSD.  
 Sample ID = 1608 TOWER MW21D  
 Date / Time = 8/9/14 / 1450.  
 Collected following parameters  
 from all wells:  
 • Volts • EDRS • Sulfide  
 • Metals • Nitrate / Nitrite  
 • BOD • Sulfate  
 1530 - Disconnected pump, packing  
 up equipment. Walk  
 around sensors, slips of  
 paper in the  
 8/9/14

20 8/9/10 P# 34170026  
 Tower  
 pump, then come back  
 to site to visit Po  
 contractor to move drums  
 1730 - SBS onsite, moving  
 drums of Septic  
 system. Condenser onsite  
 also.  
 1800 - leaving site. Will drive  
 samples to Pac  
 Minneapolis tomorrow  
 morning.  
 Note: Soil 10W sample  
 collected on 8/5/10  
 from MW21M cuttings.  
 Sample 10 = 16008 TOWER 10WSS  
 Date/time = 8/5/10 / 1430.  
 Collected fr lead (0020)  
 & BTEX (3200).  
 Will drop 86 w/ ground-  
 water samples tomorrow.

  
 1000 8/9/10

Sunny, 30°C P# 34170024  
 R Beckman Tower 21 8/10/10  
 0700 - Samples received,  
 8 - 1-gallon bags, 8  
 wet ice in each  
 cooler (2 coolers total)  
 Headed to Minneapolis, MN  
 Checked out of hotel.  
 1230 - In Minneapolis,  
 dropping sample C  
 Paul.  
 1430 - Prepared rental car  
 at airport, checked  
 in to flight to  
 Anchorage, AK. Plane  
 leaves ~1800  
 2000 - In Anchorage, AK.  
 Called out home.

  
 RB, 8/10/10  
 Rate in the Rain

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckman

WEATHER: Cloudy n 75°F

SAMPLE ID ON COC: 1608 TOWER MWL

PURGE METHOD: Low flow

SAMPLE METHOD: Low flow

PRODUCT PRESENT: NO

WATER LEVEL MEASURING DEVICE: Interface probe

TYPE OF PUMP: Stacker

WELL INTEGRITY: good

REQUIRED REPAIRS: none

PUMP INTAKE DEPTH: ~ 9' abv

CLIENT: EPA

SITE: Tower

DATE: 8/18/96

MONITORING WELL ID: MW10

SHEET 1 OF 1

1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft

DIAMETER OF WELL: 0.167 (FT)

RADIUS OF WELL (R): 0.083 (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 11.09 (FT)

DEPTH TO GW BELOW MEASURING POINT (d): 2.28 (FT)

LENGTH OF WATER COLUMN (L): (D-d) = 9.41 (FT)

VOLUME OF WATER COLUMN (V): (3.14xRxL) 0.20 (CUBIC FT)

WELL VOLUME: (7.48xV) = 1.5 (GAL) X 3 = 4.5 (GAL)

Min Purge Volume

Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (uS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) (1)
Start	= 0.945	-	-	-	-	-	-	-	-	-
0950	1.05	2.35	6.85	15.02	-65.7	0.87	511	580	Brown	N
0955	1.50	2.38	6.85	15.54	-64.4	1.68	519	418	" "	N
1000	1.75	2.30	6.86	15.15	-64.1	1.32	515	316	Light Brn	N
1005	2.00	2.30	6.88	15.18	-75.1	0.62	523	960	Milky	N
1010	2.25	2.36	6.90	15.19	-84.7	0.80	537	15	Clear	N
1015	2.50	2.35	6.89	15.25	-86.8	0.93	541	29	Clear	N
1020	2.75	2.30	6.87	15.20	-86.8	0.88	539	29	Clear	N
1025	3.00	2.30	6.87	15.19	-87.4	0.90	540	18	Clear	N
1030	3.25	2.38	6.87	15.31	-87.7	0.91	547	18	" "	N
1035	3.50	2.36	6.87	15.45	-85.9	0.92	550	27	" "	N
1040	3.75	2.30	6.87	15.50	-85.0	0.90	552	17	" "	N
1045	4.00	2.30	6.87	15.51	-85.3	0.95	556	15	" "	Y

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 4.0 (GAL) FLOW RATE (desired range is 100 to 500 mL/min): 752 mL/min.

SAMPLE TIME: 1055

QC SAMPLES COLLECTED: —

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X	Lead by SW6010B or SW6020 _____	Sulfate by E300.0 X
BTEX only by SW8260B _____	Metals TOC by SW9020 _____	Chloride by E300.0 X RBS
PAHs by SW8310 or SW8270 _____	DOC by SW9020 _____	Nitrate/Nitrite by E353.1 X
GRO by WDNR X	MEE by RSK-175 or Lab SOP _____	Other (Specify) EAS
DRO by WDNR _____	Alkalinity by E310.1 _____	Other (Specify) Sulfide

COMMENTS:

Purged 1 hour

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckman

WEATHER: Cloudy, n 75° C

SAMPLE ID ON COC: 1608.TOWER.MW18D

PURGE METHOD: low flow

SAMPLE METHOD: low flow

PRODUCT PRESENT: No

WATER LEVEL MEASURING DEVICE: Interface probe

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

REQUIRED REPAIRS: none

PUMP INTAKE DEPTH: ~38' btoc

CLIENT: EPA

SITE: Tower

DATE: 6/8/16

MONITORING WELL ID: MW18D

SHEET 1 OF 2

1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft

DIAMETER OF WELL: 0.167

(FT)

RADIUS OF WELL (R): 0.083

(FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 41.25

(FT)

DEPTH TO GW BELOW MEASURING POINT (d): 2.10

(FT)

LENGTH OF WATER COLUMN (L): (D-d)= 39.15

(FT)

VOLUME OF WATER COLUMN (V): (3.14xRxL) 0.85

(CUBIC FT)

WELL VOLUME: (7.48xV)= 10.33 (GAL) X 3= 19.00

(GAL)

Min Purge Volume

Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (uS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) <sup>(1)</sup>
10253 Start										
1030	0.25	2.31	7.09	12.57	-105.7	4.44	655	>1000	Pink	N
stopped	Pumping	2.1035	7.29	11.79	-130.3	0.51	712	>1000	Pink	-
1035	0.50	2.20	7.29	11.79	-130.3	0.51	712	>1000	Pink	N
1100	0.75	2.20	7.27	12.07	-130.5	0.37	718	>1000	" "	N
1205	1.00	2.18	7.28	12.03	-117.5	0.31	713	345	light pink	N
1210	1.25	2.18	7.28	11.88	-116.3	0.28	710	239	" "	N
1215	1.50	2.21	7.26	11.63	-117.7	0.24	708	147	" "	N
1220	1.75	2.20	7.25	11.63	-113.3	0.23	706	112	" "	N
1225	2.00	2.21	7.24	11.55	-115.0	0.22	705	89	Clear	N
1230	2.25	2.21	7.23	11.50	-111.4	0.23	704	75	Clear	N
1235	2.50	2.20	7.21	11.46	-111.9	0.23	705	71	" "	N
1240	2.75	2.21	7.21	11.43	-112.5	0.20	703	69	" "	N

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 3.50 (GAL)

FLOW RATE (desired range is 100 to 500 mL/min): 220 mL/min

SAMPLE TIME: 1350

QC SAMPLES COLLECTED: 1608.TOWER.MW18D = depthically @ 1330

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X

Lead by SW6010B or SW6020 X

Sulfate by E300.0 X

BTEX only by SW8260B

Metals

Chloride by E300.0

PAHs by SW8310 or SW8270

TOC by SW9020

Nitrate/Nitrite by E353.1 X

GRO by WDNR X

DOC by SW9020

Other (Specify) Snifido

DRO by WDNR

MEE by RSK-175 or Lab SOP

Other (Specify) ED15

Alkalinity by E310.1

COMMENTS:

Moderate VC odor, purged 1 hour

Stability criteria and purging criteria established by EPA Low-flow (Minimal Drawdown) Ground-water Sampling Procedures. Robert W. Puls and Michael J. Barcelona.

EPA/540/S-95/504, April 1996.

## **GROUNDWATER SAMPLING REPORT**

SAMPLER(S) NAME: Robert Beckmen

WEATHER: Cloudy, 75°F

SAMPLE ID ON COC: 1008.TOWERMW100

**PURGE METHOD:** *Low Flow*

SAMPLE METHOD: low flow

PRODUCT PRESENT: *✓*

WATER LEVEL MEASURING DEVICE: *interface*

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

**REQUIRED REPAIRS:**

BUMR INTAKE DEPTH: 138' pbar

**YUMI INTAKE DEFIR** ✓ 100% **YUMI**

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for convenience.

informational purposes only.

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- $\pm 0.1$  standard units for pH
  - $\pm 10\%$  for temperature
  - $\pm 3\%$  for specific conductance (conductivity)
  - $\pm 10$  mV for ORP or  $\pm 10\%$  if between -100 mV and +100 mV
  - $\pm 10\%$  for DO  $> 0.50$  mg/L. Three DO readings  $< 0.50$  mg/L can be considered stable.
  - $\pm 10\%$  for turbidity  $> 10$  ntu. Three turbidity readings  $< 10$  NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 3.50 (GAL)

**FLOW RATE** (desired range is 100 to 500 mL/min):

SAMPLE TIME: 13012

QC SAMPLES COLLECTED: 11/10/87 TOWER MW 180 = discrepancy # 1330

**ANALYSIS** (fill in correct method if not provided and the number of bottles collected for each parameter)

ANALYSES (list in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B <input checked="" type="checkbox"/>	Lead by SW6010B or SW6020 <input checked="" type="checkbox"/>	Sulfate by E300.0 <input checked="" type="checkbox"/>
BTEX only by SW8260B <input type="checkbox"/>	<i>Meten's</i> TOC by SW9020 <input type="checkbox"/>	Chloride by E300.0 <input type="checkbox"/>
PAHs by SW8310 or SW8270 <input type="checkbox"/>	DOC by SW9020 <input type="checkbox"/>	Nitrate/Nitrite by E353.1 <input checked="" type="checkbox"/>
GRO by WDNR <input checked="" type="checkbox"/>	MEE by RSK-175 or Lab SOP <input type="checkbox"/>	Other (Specify) <u>Surf Aids</u> <input type="checkbox"/>
DRO by WDNR <input type="checkbox"/>	Alkalinity by E310.1 <input type="checkbox"/>	Other (Specify) <u>EDTA</u> <input type="checkbox"/>

**COMMENTS:**

Boiled 1 hr

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckmann

WEATHER: Cloudy, 70°F

SAMPLE ID ON COC: 1608 TOWER MWLVE

PURGE METHOD: Low flow

SAMPLE METHOD: Low flow

PRODUCT PRESENT: No

WATER LEVEL MEASURING DEVICE: Interface probe

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

REQUIRED REPAIRS: None

PUMP INTAKE DEPTH: ~ 56'

CLIENT: EPA

SITE: Tower

DATE: 8/9/04

MONITORING WELL ID: MWLVE

SHEET 1 OF 1

1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft

DIAMETER OF WELL: 0.167 (FT)

RADIUS OF WELL (R): 0.083 (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 59.50 (FT)

DEPTH TO GW BELOW MEASURING POINT (d): 2.73 (FT)

LENGTH OF WATER COLUMN (L): (D-d) = 56.77 (FT)

VOLUME OF WATER COLUMN (V): (3.14xRxL) 1.23 (CUBIC FT)

WELL VOLUME: (7.48xV) = 9.2 (GAL) X 3 = 27.540 (GAL)

Min Purge Volume

Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOTC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (uS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) <sup>(1)</sup>
0750	0.24	2.72	6.42	13.71	57.3	3.42	723	249	Clear	N
0755	0.50	2.81	6.24	12.38	-27.2	2.14	914	438	Clear	N
0800	0.75	2.80	6.61	12.04	-115.3	0.64	944	337	Clear	N
0805	1.00	2.80	6.80	12.41	-157.1	0.36	971	253	Clear	N
0810	1.25	2.80	6.78	12.14	-159.2	0.33	988	136	Clear	N
0815	1.50	2.80	6.88	12.49	-164.9	0.31	1013	88	Clear	N
0820	1.75	2.81	7.01	12.56	-175.1	0.28	1030	73	Clear	N
0825	2.00	2.80	7.10	12.91	-179.3	0.28	1049	65	Clear	N
0830	2.50	2.81	7.04	12.12	-192.3	0.23	1045	54	Clear	N
0835	2.75	2.81	7.09	12.64	-193.0	0.23	1072	42	Clear	N
0840	3.00	2.80	7.13	12.79	-203.0	0.25	1089	38	Clear	N
0845	3.30	2.80	7.21	12.70	-166.9	0.27	1084	25	Clear	N
0850	3.75	2.86	7.24	12.81	-155.0	0.24	1113	20	Clear	Y

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 3.75 (GAL)

FLOW RATE (desired range is 100 to 500 mL/min): 736 mL/min.

SAMPLE TIME: 0900

QC SAMPLES COLLECTED:

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X

Lead by SW6010B or SW6020

Sulfate by E300.0 X

BTEX only by SW8260B

Metals TOC by SW9020

Chloride by E300.0

PAHs by SW8310 or SW8270

DOC by SW9020

Nitrate/Nitrite by E353.1 X

GRO by WDNR X

MEE by RSK-175 or Lab SOP

Other (Specify) Sulfide

DRO by WDNR X

Alkalinity by E310.1

Other (Specify) EDIB

COMMENTS:

Purged 1 hr.  
mild HCl odor

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckman

WEATHER: Partial Sun, 175°F

SAMPLE ID ON COC: 1603.TOWERMW21

PURGE METHOD: Low Flow

SAMPLE METHOD: Low Flow

PRODUCT PRESENT: 10

WATER LEVEL MEASURING DEVICE: Interface Probe

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

REQUIRED REPAIRS: needs new cover seal

PUMP INTAKE DEPTH:

DIAMETER OF WELL: 0.167

RADIUS OF WELL (R): 0.083

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 14.88

DEPTH TO GW BELOW MEASURING POINT (d): 7.23

LENGTH OF WATER COLUMN (L): (D-d)= 7.65

VOLUME OF WATER COLUMN (V):  $(3.14 \times R^2 \times L)$  0.165 (CUBIC FT)WELL VOLUME:  $(7.48 \times V) = 1.23$  (GAL) X 3= 3.71 (GAL)

Min Purge Volume Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (µS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) <sup>(1)</sup>
1010	0.25	7.48	6.20	17.31	-38.9	0.34	365	>1000	Red/orange	N
1015	0.50	7.52	6.16	16.41	-38.0	0.44	355	>1000	" "	N
1020	0.75	7.54	6.12	16.12	-37.7	0.25	349	378	Light brown	N
1025	1.00	7.55	6.18	15.83	-42.3	0.22	341	224	" "	N
1030	1.50	7.55	6.23	15.00	-45.8	0.22	336	142	" "	N
1035	1.75	7.55	6.23	15.51	-45.4	0.20	334	112	Clear	N
1040	2.00	7.55	6.27	15.50	-46.6	0.17	332	70	Clear	N
1045	2.25	7.54	6.28	15.49	-47.8	0.18	332	56	Clear	N
1050	2.50	7.55	6.29	15.43	-48.4	0.18	332	46	Clear	N
1055	2.75	7.54	6.27	15.46	-47.2	0.15	331	38	Clear	N
1100	3.00	7.55	6.29	15.54	-48.8	0.14	333	31	Clear	N
1105	3.50	7.53	6.31	15.53	-50.0	0.13	333	24	Clear	N
1110	3.75	7.54	6.30	15.44	-48.4	0.14	333	19	Clear	N

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 3.75 (GAL)

FLOW RATE (desired range is 100 to 500 mL/min): 250 mL/min

SAMPLE TIME: 1120

QC SAMPLES COLLECTED: —

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X

BTEX only by SW8260B

PAHs by SW8310 or SW8270

GRO by WDNR X

DRO by WDNR

Lead by SW6010B or SW6020

Metals

TOC by SW9020

DOC by SW9020

MEE by RSK-175 or Lab SOP

Alkalinity by E310.1

Sulfate by E300.0 X

Chloride by E300.0

Nitrate/Nitrite by E353.1 X

Other (Specify) Sulfide

Other (Specify) EDR

COMMENTS:

H2S odor, purged 1 hour, no change

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckner

WEATHER: Cloudy, 75°F

SAMPLE ID ON COC: H008M21M PRE 8/14 1608 TOWER MW21M

PURGE METHOD: Low flow

SAMPLE METHOD: Low flow

PRODUCT PRESENT: No

WATER LEVEL MEASURING DEVICE: Interface Probe

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

REQUIRED REPAIRS: None

PUMP INTAKE DEPTH: ~27' bslc

CLIENT: EPA

SITE: Tower

DATE: 8/9/14

MONITORING WELL ID: MW21M

SHEET 1 OF 1

1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft

DIAMETER OF WELL: 0.167 (FT)

RADIUS OF WELL (R): 0.083 (FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 30.16 (FT)

DEPTH TO GW BELOW MEASURING POINT (d): 7.49 (FT)

LENGTH OF WATER COLUMN (L): (D-d)= 22.67 (FT)

VOLUME OF WATER COLUMN (V): (3.14RxRxL) 0.49 (CUBIC FT)

WELL VOLUME: (7.48xV)= 3.67 (GAL) X 3= 11 (GAL)

Min Purge Volume

Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (µS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) <sup>(1)</sup>
1150	0.25	7.51	6.50	17.05	-15.3	4.00	341	835	Pink	N
1155	0.50	7.52	5.97	14.83	3.0	0.65	351	>1000	Pink	N
1200	0.75	7.54	5.91	14.60	1.3	0.41	354	970	Pink	N
1205	1.00	7.53	6.07	14.83	-13.1	0.32	369	791	Pink	N
1210	1.25	7.52	6.13	14.35	-17.7	0.84	384	528	Rust	N
1215	1.50	7.53	6.17	14.77	-21.6	0.32	392	386	Pink	N
1220	1.75	7.51	6.20	15.00	-24.1	0.23	398	323	Pink	N
1225	2.00	7.51	6.20	15.24	-22.9	0.20	410	260	Pink	N
1230	2.25	7.51	6.21	15.20	-24.7	0.20	415	204	Pink	N
1235	2.50	7.52	6.22	15.49	-25.2	0.17	424	154	Clear	N
1240	2.75	7.51	6.22	15.39	-25.9	0.18	426	136	Clear	N
1245	3.00	7.51	6.23	15.34	-26.5	0.18	426	120	Clear	N
1250	3.50	7.52	6.23	15.40	-28.3	0.17	428	98	Clear	Y

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 NTU. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 3.50 (GAL)

FLOW RATE (desired range is 100 to 500 mL/min):

220 mL/min

SAMPLE TIME: 1300

QC SAMPLES COLLECTED:

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X

Lead by SW6010B or SW6020 X

Sulfate by E300.0 X

BTEX only by SW8260B

Metals

Chloride by E300.0

PAHs by SW8310 or SW8270

TOC by SW9020

Nitrate/Nitrite by E353.1 X

GRO by WDNR X

DOC by SW9020

Other (Specify) \_\_\_\_\_

DRO by WDNR

MEE by RSK-175 or Lab SOP

Other (Specify) \_\_\_\_\_

COMMENTS:

Mild HC odor. Purged for 1 hour.

## GROUNDWATER SAMPLING REPORT

SAMPLER(S) NAME: Robert Beckman

WEATHER: Cloudy, ~75°F

SAMPLE ID ON COC: 1608TOWERMW21D

PURGE METHOD: Low Flow

SAMPLE METHOD: Low Flow

PRODUCT PRESENT: NO

WATER LEVEL MEASURING DEVICE: Interface probe

TYPE OF PUMP: Bladder

WELL INTEGRITY: Good

REQUIRED REPAIRS: AD

PUMP INTAKE DEPTH: -30'

CLIENT: EPA

SITE: TOWER

DATE: 8/19/14

MONITORING WELL ID: MW21D

SHEET 1 OF 1

1 in = 0.083 ft; 2 in = 0.167 ft; 3 in = 0.25 ft; 4 in = 0.333 ft

DIAMETER OF WELL: 0.167

(FT)

RADIUS OF WELL (R): 0.083

(FT)

TOTAL DEPTH OF WELL BELOW MEASURING POINT (D): 39.34

(FT)

DEPTH TO GW BELOW MEASURING POINT (d): 7.62

(FT)

LENGTH OF WATER COLUMN (L): (D-d)= 31.72

(FT)

VOLUME OF WATER COLUMN (V): (3.14xRxL) 0.69

(CUBIC FT)

WELL VOLUME: (7.48xV)= 5.13 (GAL) X 3= 15.40

(GAL)

Min Purge Volume

Max Purge Volume

Note: Groundwater volumes above were calculated in the field and used for approximate purge volumes; rounded values are shown for informational purposes only.

TIME	VOLUME (GAL)	WATER LEVEL (ft BTOC)	pH	TEMP (deg C)	ORP (mV)	DO (mg/L)	SPECIFIC COND. (µS/cm)	TURBIDITY (NTU)	VISUAL APPEARANCE OF WATER	STABILIZATION ACHIEVED (YES/NO) <sup>(1)</sup>
1310	0.25	7.62	6.43	18.100	-54.3	5.86	1420	>1000	Brown	N
1315	0.50	7.63	6.41	12.64	-43.4	0.49	1414	>1000	" "	N
1320	0.75	7.64	6.38	12.98	-43.3	0.19	1601464	872	Light Brown	N
1325	1.00	7.65	6.52	15.93	-50.0	0.19	1580	735	" "	N
1400	1.25	7.65	6.52	16.03	-52.1	0.25	1588	123	" "	N
1405	1.50	7.64	6.55	12.25	-50.2	0.15	1477	124	" "	N
1410	2.00	7.66	6.41	12.10	-46.1	0.13	1483	111	" "	N
1415	2.25	7.65	6.49	12.16	-50.9	0.12	1499	58	Clear	N
1420	2.50	7.65	6.50	12.13	-52.4	0.14	1503	46	" "	N
1425	2.75	7.65	6.52	12.08	-52.4	0.14	1504	39	" "	N
1430	3.25	7.65	6.52	11.97	-53.8	0.10	1501	31	" "	N
1435	3.50	7.66	6.51	12.17	-54.3	0.13	1504	22	" "	N
1440	4.00	7.65	6.52	12.20	-55.1	0.10	1509	20	" "	Y

(1) STABILIZATION is achieved when three (3) consecutive readings of field indicator parameters collected in 3 to 5 minute intervals meet the following criteria:

- ±0.1 standard units for pH
- ±10 mV for ORP or ±10% if between -100 mV and +100 mV
- ±10% for temperature
- ±10% for DO > 0.50 mg/L. Three DO readings < 0.50 mg/L can be considered stable.
- ±3% for specific conductance (conductivity)
- ±10% for turbidity > 10 ntu. Three turbidity readings < 10 NTU can be considered stable.

Purge Until All Parameters Stabilize or after 3 Well Volumes Are Removed for Low-Flow Minimal Drawdown Procedure

TOTAL VOLUME PURGED: 4.00 (GAL)

FLOW RATE (desired range is 100 to 500 mL/min): 752 mL/min

SAMPLE TIME: 1450

QC SAMPLES COLLECTED: MS/MSD

ANALYSIS (fill in correct method if not provided and the number of bottles collected for each parameter)

VOCs (in water) by SW8260B X

Lead by SW6010B or SW6020 X

Sulfate by E300.0 X

BTEX only by SW8260B

TOC by SW9020

Chloride by E300.0

PAHs by SW8310 or SW8270

DOC by SW9020

Nitrate/Nitrite by E353.1 X

GRO by WDNR X

MEE by RSK-175 or Lab SOP

Other (Specify) EDDB

DRO by WDNR

Alkalinity by E310.1

Other (Specify) Sulfide

COMMENTS:

Mod. HC odor. Punged, 1 hour

**ATTACHMENT 3**

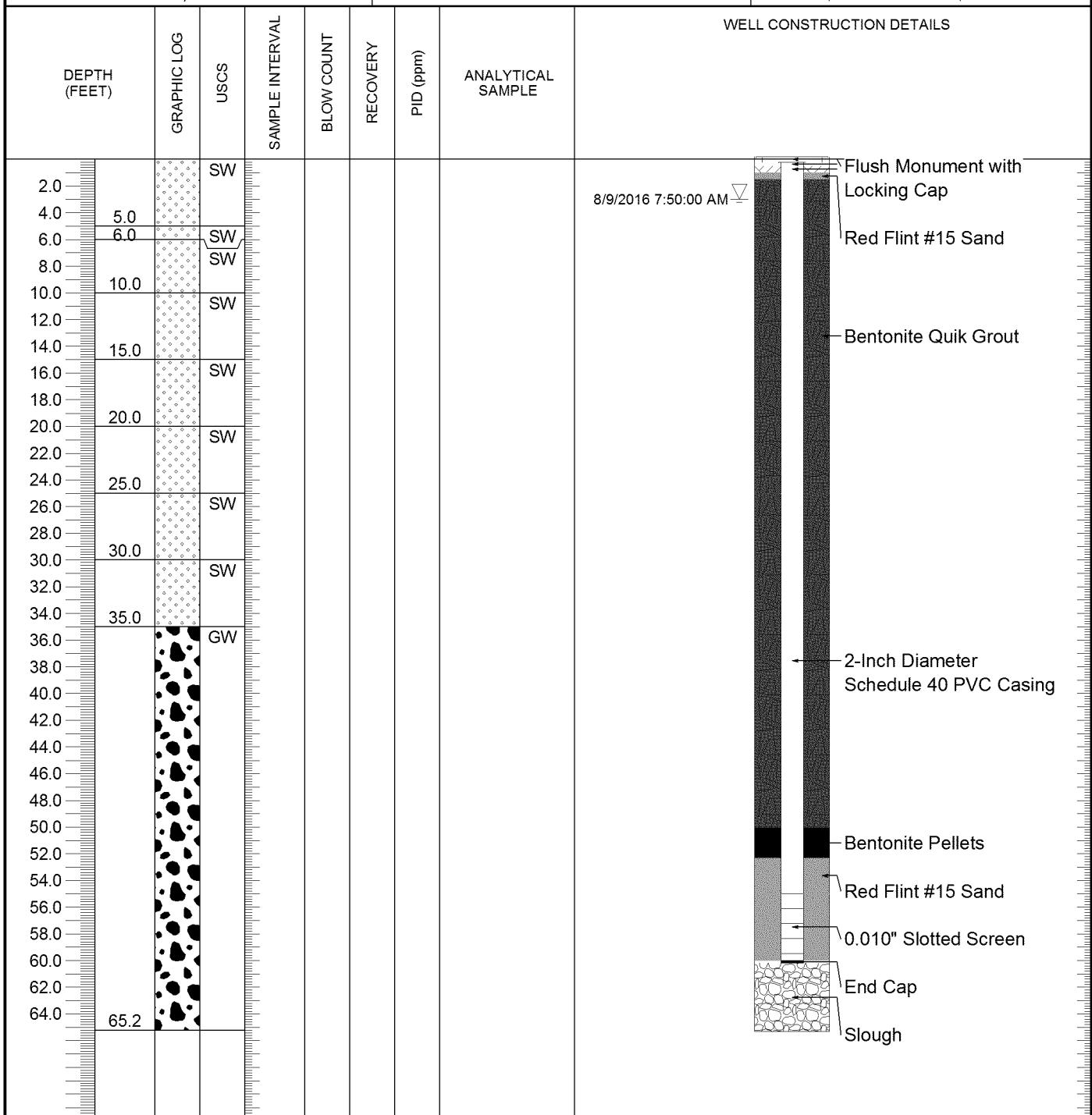
Well Construction Diagrams



## WELL CONSTRUCTION DIAGRAM

SHEET 1  
OF 1 SHEETS

		BOREHOLE LOCATION N 1982979.9, E 1727927.9	DRILLING COMPANY Coleman Engineering Company
		COORDINATE SYSTEM AND DATUM WTM, NAD 83	DRILL RIG Diedrich D-120
PROJECT Task Order 3012		ELEVATION AT TOP OF HOLE 1570.0 feet	DRILLING METHOD Hollow Stem Auger
CLIENT U.S. EPA		ELEVATION AT TOP OF CASING 1569.73 feet	DRILLER Craig Reidmer
JOB NUMBER 34170026		ELEVATION DATUM Mean Sea Level	BOREHOLE DIAMETER 8 inches
SITE Tower Standard		TOTAL DEPTH 65.3 feet	LOGGED BY Robert Beckman
LOCATION Lac du Flambeau, Wisconsin		DEPTH TO WATER 3 feet	DATE STARTED HOLE 8/3/2016 COMPLETED 8/5/2016

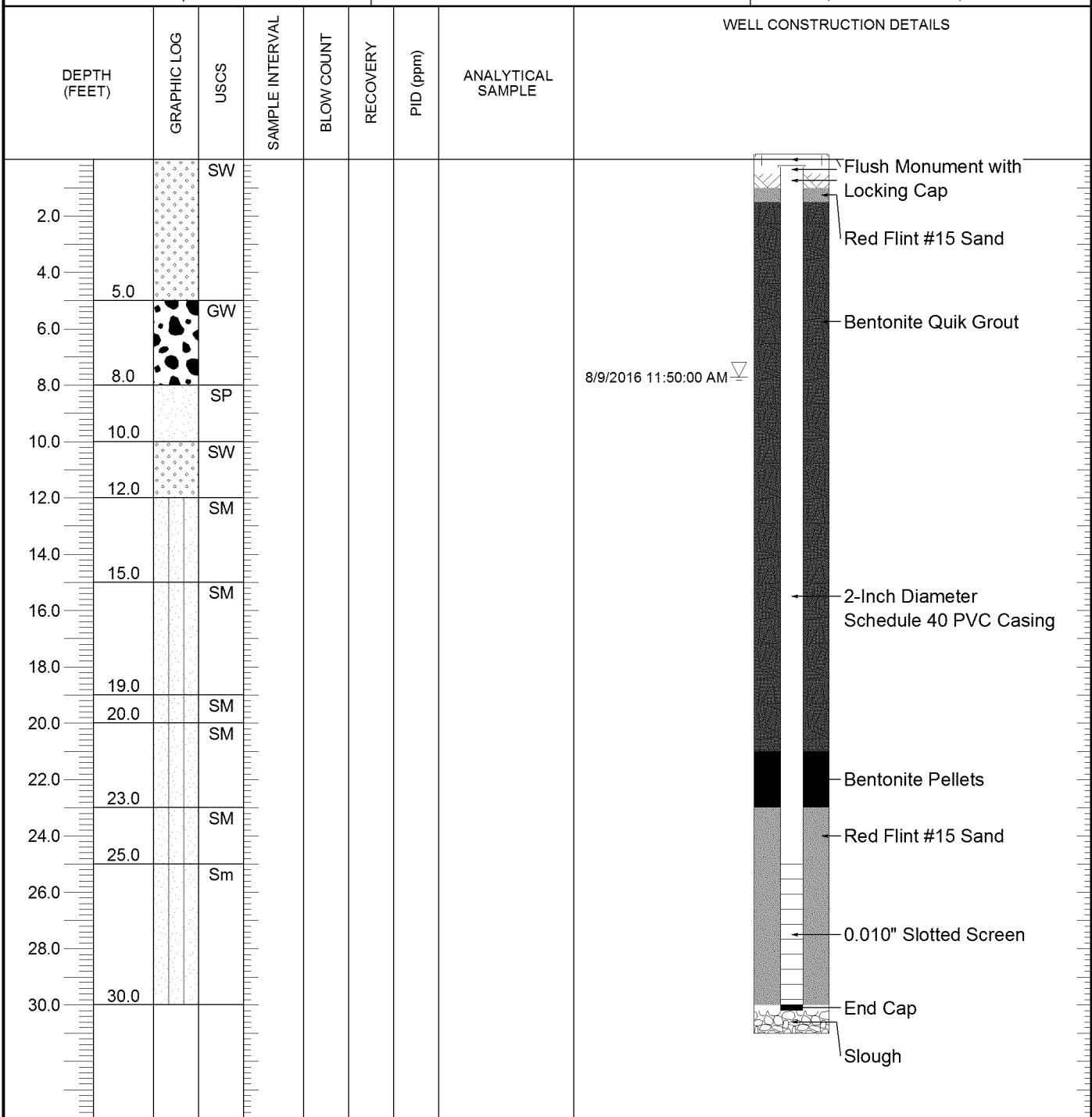




## WELL CONSTRUCTION DIAGRAM

SHEET 1  
OF 1 SHEETS

		BOREHOLE LOCATION N 1983142.6, E 1728145.1	DRILLING COMPANY Coleman Engineering Company
		COORDINATE SYSTEM AND DATUM WTM, NAD 83	DRILL RIG Diedrich D-120
PROJECT Task Order 3012		ELEVATION AT TOP OF HOLE 1575.6 feet	DRILLING METHOD Hollow Stem Auger
CLIENT U.S. EPA		ELEVATION AT TOP OF CASING 1575.37 feet	DRILLER Craig Reidmer
JOB NUMBER 34170026		ELEVATION DATUM Mean Sea Level	BOREHOLE DIAMETER 8 inches
SITE Tower Standard		TOTAL DEPTH 31 feet	DEPTH TO WATER 7.72 feet
LOCATION Lac du Flambeau, Wisconsin		GROUNDWATER ELEVATION 1567.88 feet	LOGGED BY Robert Beckman
			DATE STARTED COMPLETED HOLE 8/5/2016 8/5/2016



**ATTACHMENT 4**

Tabulated Analytical Results

**Attachment 4 Tabulated Analytical Results from August 2016 Sampling Event**  
**Tower Standard Site, Lac du Flambeau, WI**

			Monitoring Well		MW-16	MW-16D		MW-16E	MW-21	MW-21D	MW-21M
			Sample ID		1608TOWERMW16	1608TOWERMW16D <sup>+</sup>	1608TOWERMW18D <sup>+</sup>	1608TOWERMW16E	1608TOWERMW21	1608TOWERMW21D	1608TOWERMW21M
			Laboratory ID		10358621001	10358621002	10358621003	10358621004	10358621005	10358621007	10358621006
			Collection Date		8/8/2016	8/8/2016	8/8/2016	8/9/2016	8/8/2016	8/9/2016	8/9/2016
Analysis Method	Analytes	Units	Groundwater Cleanup Standards <sup>1</sup>	EPA MCLs <sup>2</sup>	PALs <sup>3</sup>	Volatile Organic Compounds					
EPA 8260B	1,1,1,2-Tetrachloroethane	µg/L	70	NE	7	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	1,1,1-Trichloroethane	µg/L	200	NE	40	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,1,2,2-Tetrachloroethane	µg/L	0.2	NE	0.02	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,1,2-Trichloroethane	µg/L	5	NE	0.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,1,2-Trichlorotrifluoroethane	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,1-Dichloroethane	µg/L	850	NE	85	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	1,1-Dichloroethene	µg/L	7	NE	0.7	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,1-Dichloropropene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2,2,3-Trichlorobenzene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2,2,3-Trichloropropane	µg/L	60	NE	12	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	1,2,4-Trichlorobenzene	µg/L	70	NE	14	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2,4-Trimethylbenzene	µg/L	NE	NE	NE	ND (1.0)	367	336	96.6	2,920	30.6 MH
EPA 8260B	1,3,5-Trimethylbenzene	µg/L	NE	NE	NE	ND (1.0)	79.5	84.3	16.9	744	8.2
EPA 8260B	Total Trimethylbenzenes	µg/L	480	NE	96	ND (2.0)	446.5	420.3	113.5	3,664	38.8
EPA 8260B	1,2-Dibromo-3-chloropropane	µg/L	0.2	NE	0.02	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)
EPA 8260B	1,2-Dibromoethane (EDB)	µg/L	0.05	NE	0.005	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2-Dichlorobenzene	µg/L	600	NE	60	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2-Dichloroethane (1,2-DCA)	µg/L	5	NE	0.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,2-Dichloropropane	µg/L	5	NE	0.5	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	1,3-Dichlorobenzene	µg/L	1,250	NE	120	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,3-Dichloropropane	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	1,4-Dichlorobenzene	µg/L	75	NE	15	ND (1.0)	ND (1.0)	ND (1.0)	0.28 J	ND (1.0)	ND (1.0)
EPA 8260B	2,2-Dichloropropane	µg/L	NE	NE	NE	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	2-Butanone (MEK)	µg/L	460	NE	0.8	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
EPA 8260B	2-Chlorotoluene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	4-Chlorotoluene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	4-Methyl-2-pentanone (MIBK)	µg/L	500	NE	50	ND (5.0)	0.69 J	0.72 J	ND (5.0)	9.4	ND (5.0)
EPA 8260B	Acetone	µg/L	1,000	NE	1,800	2.4 J B	ND (20.0)	ND (20.0)	10.0 J B	37.3 B	2.2 J
EPA 8260B	Allyl chloride	µg/L	NE	NE	NE	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Benzene	µg/L	5	5	0.5	0.75 J	1,240	1,300	768	458	45.9 MH
EPA 8260B	Bromobenzene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Bromochloromethane	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Bromodichloromethane	µg/L	NE	NE	0.06	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Bromoform	µg/L	NE	80	0.44	ND (10.0) QL	ND (10.0) QL	ND (10.0) QL	ND (10.0) QL	ND (10.0) QL	ND (10.0) QL
EPA 8260B	Bromomethane	µg/L	NE	NE	1	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Carbon tetrachloride	µg/L	5	5	0.5	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Chlorobenzene	µg/L	NE	100	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Chloroethane	µg/L	400	NE	80	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Chloroform	µg/L	6	80	0.6	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Chloromethane	µg/L	3	NE	3	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	cis-1,2-Dichloroethene	µg/L	70	70	7	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	cis-1,3-Dichloropropene	µg/L	0.2	NE	0.04	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Dibromochloromethane	µg/L	NE	80	6	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Dibromomethane	µg/L	NE	NE	NE	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Dichlorodifluoromethane	µg/L	1,000	NE	200	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)

**Attachment 4 Tabulated Analytical Results from August 2016 Sampling Event**  
**Tower Standard Site, Lac du Flambeau, WI**

Analysis Method	Analytes	Units	Monitoring Well		MW-16	MW-16D		MW-16E	MW-21	MW-21D	MW-21M
			Sample ID		1608TOWERMW16	1608TOWERMW16D <sup>+</sup>	1608TOWERMW18D <sup>+</sup>	1608TOWERMW16E	1608TOWERMW21	1608TOWERMW21D	1608TOWERMW21M
			Laboratory ID		10358621001	10358621002	10358621003	10358621004	10358621005	10358621007	10358621006
			Collection Date		8/8/2016	8/8/2016	8/8/2016	8/9/2016	8/8/2016	8/9/2016	8/9/2016
<b>Volatile Organic Compounds (Continued)</b>											
EPA 8260B	Diethyl ether (Ethyl ether)	µg/L	NE	NE	100	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Ethylbenzene	µg/L	700	700	140	ND (1.0)	61.8	65.3	8.9	1,700	8.1
EPA 8260B	Hexachloro-1,3-butadiene	µg/L	NE	NE	NE	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (1.0)	ND (4.0)
EPA 8260B	Isopropylbenzene (Cumene)	µg/L	NE	NE	NE	ND (1.0)	26.0	26.7	9.9	111	1.2
EPA 8260B	Methylene Chloride	µg/L	5	5	0.5	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Methyl tertiary-butyl ether (MTBE)	µg/L	60	NE	12	ND (1.0)	1.9	2.3	10.0	0.24 J	ND (1.0)
EPA 8260B	Naphthalene	µg/L	40	NE	10	ND (4.0)	109	114	28.2	703	4.9
EPA 8260B	n-Butylbenzene	µg/L	NE	NE	NE	ND (1.0)	3.3	3.5	0.59 J	52.4	1.8
EPA 8260B	n-Propylbenzene	µg/L	NE	NE	NE	ND (1.0)	66.9	69.5	18.4	268	5.3 MH
EPA 8260B	p-Isopropyltoluene	µg/L	NE	NE	NE	ND (1.0)	1.6	1.7	0.52 J	15.9	0.44 J MH
EPA 8260B	sec-Butylbenzene	µg/L	NE	NE	NE	ND (1.0)	4.0	4.3	1.3	21.6	0.69 J
EPA 8260B	Styrene	µg/L	100	100	10	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	12.5	ND (1.0)
EPA 8260B	tert-Butylbenzene	µg/L	NE	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Tetrachloroethene	µg/L	NE	5	0.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Tetrahydrofuran	µg/L	50	NE	10	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)
EPA 8260B	Toluene	µg/L	1,000	1,000	160	ND (1.0)	22.2	23.0	6.1 B	3,280 B	7.3
EPA 8260B	trans-1,2-Dichloroethene	µg/L	100	NE	20	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	trans-1,3-Dichloropropene	µg/L	0.2	NE	0.04	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)	ND (4.0)
EPA 8260B	Trichloroethene	µg/L	5	NE	0.5	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
EPA 8260B	Trichlorofluoromethane	µg/L	3,490	NE	NE	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
EPA 8260B	Vinyl chloride	µg/L	0.2	NE	0.02	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)
EPA 8260B	Xylene (Total)	µg/L	10,000	10,000	400	ND (3.0)	1,610	1,410	506	9,060	64.5
<b>Ethylene Dibromide</b>											
EPA 8011	1,2-Dibromoethane (EDB)	µg/L	0.05	NE	0.005	ND (0.0097)	ND (0.0098)	ND (0.010)	ND (0.0098)	0.0072 J	ND (0.0099)
<b>Anions</b>											
ASTM D516	Sulfate	mg/L	NE	NE	NE	7.2	ND (3.5)	ND (3.5)	1.2 J	1.5 J	1.1 J
SM 4500-S2-D	Sulfide	mg/L	NE	NE	NE	ND (0.10)	ND (0.10)	0.40	0.024 J	0.022 J	0.014 J
SM 4500-S H	Sulfide as Hydrogen Sulfide	mg/L	NE	NE	NE	ND (0.10)	ND (0.10)	0.11	ND (0.10)	ND (0.10)	ND (0.10)
SM 4500-NO3 H	Nitrate as N	mg/L	10,000	NE	2,000	ND (0.058)	ND (0.058)	ND (0.058)	ND (0.058)	0.047 J	0.063
SM 4500-NO2 B	Nitrite as N	mg/L	1,000	NE	200	ND (0.012) H	ND (0.012) H	ND (0.012) H	ND (0.012) H	ND (0.012) H	ND (0.012) H
SM 4500-NO3 H	Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	10,000	NE	2,000	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	0.063 J ML	0.12 J

**Attachment 4 Tabulated Analytical Results from August 2016 Sampling Event**  
**Tower Standard Site, Lac du Flambeau, WI**

			Monitoring Well		MW-16	MW-16D		MW-16E	MW-21	MW-21D	MW-21M	
			Sample ID		1608TOWERMW16	1608TOWERMW16D <sup>1</sup>	1608TOWERMW18D <sup>1</sup>	1608TOWERMW16E	1608TOWERMW21	1608TOWERMW21D	1608TOWERMW21M	
			Laboratory ID		10358621001	10358621002	10358621003	10358621004	10358621005	10358621007	10358621006	
			Collection Date		8/8/2016	8/8/2016	8/8/2016	8/9/2016	8/8/2016	8/9/2016	8/9/2016	
Analysis Method	Analytes	Units	Groundwater Cleanup Standards <sup>1</sup>	EPA MCLs <sup>2</sup>	PALs <sup>3</sup>							
<b>Metals</b>												
EPA 6020B	Arsenic	µg/L	10	10	1	1.4	0.55	0.58	0.59	2.3	0.43 J	1.5
EPA 6020B	Barium	µg/L	2,000	2,000	400	181	173	172	205 B	95.9 B	299 B	80.9 B
EPA 6020B	Cadmium	µg/L	5	5	0.5	ND (0.080)	ND (0.080)	ND (0.080)	ND (0.080)	0.078 J	ND (0.080)	0.057 J
EPA 6020B	Chromium	µg/L	50	100	10	7.3	2.5	2.3	2.3	8.5	4.4	9.5
EPA 6020B	Iron	µg/L	NE	NE	NE	17,000	7,220	7,200	1,460	19,200	65,700 ML	8,830
EPA 6020B	Lead	µg/L	15	NE	1.5	1.7	0.41	0.42	0.29 B	8.6 B	0.41 B	2.8 B
EPA 6020B	Manganese	µg/L	NE	NE	60	1,760	2,260	2,250	1,650	6,550	1,580 ML	3,170
EPA 245.1	Mercury	µg/L	2	2	0.2	ND (0.072)	ND (0.072)	ND (0.072)	---	---	---	---
EPA 7470A	Mercury	µg/L	2	2	0.2	---	---	---	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
EPA 6020B	Selenium	µg/L	50	50	10	ND (0.50)	ND (0.50)	ND (0.50)	0.18 J	0.39 J	0.19 J	0.43 J
EPA 6020B	Silver	µg/L	50	NE	10	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	0.042 J B	0.013 J B	0.069 J B

Notes:

<sup>1</sup>The Groundwater Cleanup Standards from Appendix A of the LDF Tribe's Hazardous Substances Control Code are the primary project action levels

<sup>2</sup>When LDF Groundwater Cleanup Standards are not available, EPA MCLs established by the Safe Drinking Water Act apply

<sup>3</sup>Preventative Action Limits from Wisconsin Administrative Code, Chapter NR 140, Groundwater Quality are provided for reference purposes only

**Bolded** results exceed project action levels

Italicized non-detects have LOQs that exceed project action levels

µg/L = micrograms per liter

B = Analytical result considered a high estimated value due to contamination present in the blank

EPA = U.S. Environmental Protection Agency

H = Sample was extracted or analyzed outside of hold time

ID = Identification

J = Positive result is less than the LOQ and considered an estimate

LDF = Lac du Flambeau

LOD = Limit of detection

LOQ = Limit of quantitation

MCL = Maximum Contaminant Level

MH = Analytical result is considered a high estimated value due to matrix effects

ML = Analytical result is considered a low estimated value due to matrix effects

ND = Analytical result not detected above the LOD (LOQ in parentheses)

PAL = Preventative Action Limit

QH = Analytical result is considered a high estimated value due to laboratory quality control failure

QL = Analytical result is considered a low estimated value due to laboratory quality control failure

**ATTACHMENT 5**

Laboratory Analytical Reports

August 22, 2016

Matt Faust  
Bristol Environmental Remediation Services,  
LLC  
111 W. 16th Avenue  
Anchorage, AK 99501

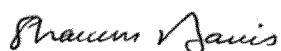
RE: Project: Tower, WI  
Pace Project No.: 10358347

Dear Matt Faust:

Enclosed are the analytical results for sample(s) received by the laboratory on August 09, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Shawn Davis  
shawn.davis@pacelabs.com  
Project Manager

Enclosures



#### **REPORT OF LABORATORY ANALYSIS**

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## CERTIFICATIONS

Project: Tower, WI  
 Pace Project No.: 10358347

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### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414	Minnesota Certification #: 027-053-137
525 N 8th Street, Salina, KS 67401	Mississippi Certification #: Pace
A2LA Certification #: 2926.01	Montana Certification #: MT0092
Alaska Certification #: UST-078	Nevada Certification #: MN_00064
Alaska Certification #MN00064	Nebraska Certification #: Pace
Alabama Certification #40770	New Jersey Certification #: MN-002
Arizona Certification #: AZ-0014	New York Certification #: 11647
Arkansas Certification #: 88-0680	North Carolina Certification #: 530
California Certification #: 01155CA	North Carolina State Public Health #: 27700
Colorado Certification #Pace	North Dakota Certification #: R-036
Connecticut Certification #: PH-0256	Ohio EPA #: 4150
EPA Region 8 Certification #: 8TMS-L	Ohio VAP Certification #: CL101
Florida/NELAP Certification #: E87605	Oklahoma Certification #: 9507
Guam Certification #: 14-008r	Oregon Certification #: MN200001
Georgia Certification #: 959	Oregon Certification #: MN300001
Georgia EPD #: Pace	Pennsylvania Certification #: 68-00563
Idaho Certification #: MN00064	Puerto Rico Certification
Hawaii Certification #MN00064	Saipan (CNMI) #: MP0003
Illinois Certification #: 200011	South Carolina #: 74003001
Indiana Certification #C-MN-01	Texas Certification #: T104704192
Iowa Certification #: 368	Tennessee Certification #: 02818
Kansas Certification #: E-10167	Utah Certification #: MN000642013-4
Kentucky Dept of Envi. Protection - DW #90062	Virginia DGS Certification #: 251
Kentucky Dept of Envi. Protection - WW #: 90062	Virginia/VELAP Certification #: Pace
Louisiana DEQ Certification #: 3086	Washington Certification #: C486
Louisiana DHH #: LA140001	West Virginia Certification #: 382
Maine Certification #: 2013011	West Virginia DHHR #: 9952C
Maryland Certification #: 322	Wisconsin Certification #: 999407970
Michigan DEPH Certification #: 9909	

### Montana Certification IDs

150 N. 9th Street, Billings, MT 59101	Minnesota Dept of Health Certification #: 030-999-442
A2LA Certification #: 3590.01	Montana Certification #: MT CERT0040
EPA Region 8 Certification #: 8TMS-L	North Dakota Dept. Of Health #: R-209
Idaho Certification #: MT00012	Washington Department of Ecology #: C993

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## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: Tower, WI  
Pace Project No.: 10358347

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10358347001	1608TOWERMW16	Water	08/08/16 10:55	08/09/16 09:30
10358347002	1608TOWERMW16D	Water	08/08/16 13:00	08/09/16 09:30
10358347003	1608TOWERMW18D	Water	08/08/16 13:30	08/09/16 09:30

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: Tower, WI  
Pace Project No.: 10358347

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10358347001	1608TOWERMW16	EPA 6020B	TT3	9	PASI-M
		EPA 245.1	LMW	1	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M
10358347002	1608TOWERMW16D	EPA 6020B	TT3	9	PASI-M
		EPA 245.1	LMW	1	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M
10358347003	1608TOWERMW18D	EPA 6020B	TT3	9	PASI-M
		EPA 245.1	LMW	1	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: Tower, WI  
Pace Project No.: 10358347

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
<b>10358347001</b>	<b>1608TOWERMW16</b>						
EPA 6020B	Arsenic	1.4	ug/L	0.50	08/19/16 13:58		
EPA 6020B	Barium	181	ug/L	0.30	08/19/16 13:58		
EPA 6020B	Chromium	7.3	ug/L	0.50	08/19/16 13:58		
EPA 6020B	Iron	17000	ug/L	50.0	08/19/16 13:58		
EPA 6020B	Lead	1.7	ug/L	0.10	08/19/16 13:58		
EPA 6020B	Manganese	1760	ug/L	5.0	08/19/16 14:35		
SM 2510B	Specific Conductance	662	umhos/cm	10.0	08/16/16 15:00		
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	08/15/16 18:48	H6	
ASTM D516	Sulfate	7.2	mg/L	3.5	08/12/16 08:34		
<b>10358347002</b>	<b>1608TOWERMW16D</b>						
EPA 6020B	Arsenic	0.55	ug/L	0.50	08/19/16 14:01		
EPA 6020B	Barium	173	ug/L	0.30	08/19/16 14:01		
EPA 6020B	Chromium	2.5	ug/L	0.50	08/19/16 14:01		
EPA 6020B	Iron	7220	ug/L	50.0	08/19/16 14:01		
EPA 6020B	Lead	0.41	ug/L	0.10	08/19/16 14:01		
EPA 6020B	Manganese	2260	ug/L	5.0	08/19/16 14:37		
SM 2510B	Specific Conductance	1020	umhos/cm	10.0	08/16/16 15:01		
SM 4500-H+B	pH at 25 Degrees C	7.1	Std. Units	0.10	08/15/16 18:52	H6	
<b>10358347003</b>	<b>1608TOWERMW18D</b>						
EPA 6020B	Arsenic	0.58	ug/L	0.50	08/19/16 14:03		
EPA 6020B	Barium	172	ug/L	0.30	08/19/16 14:03		
EPA 6020B	Chromium	2.3	ug/L	0.50	08/19/16 14:03		
EPA 6020B	Iron	7200	ug/L	50.0	08/19/16 14:03		
EPA 6020B	Lead	0.42	ug/L	0.10	08/19/16 14:03		
EPA 6020B	Manganese	2250	ug/L	5.0	08/20/16 16:10		
SM 2510B	Specific Conductance	1030	umhos/cm	10.0	08/16/16 15:02		
SM 4500-H+B	pH at 25 Degrees C	7.4	Std. Units	0.10	08/15/16 19:07	H6	
SM 4500-S2-D	Sulfide	0.40	mg/L	0.10	08/10/16 14:42		
SM 4500-S H	Sulfide as H <sub>2</sub> S (calc)	0.11	mg/L	0.10	08/16/16 16:40	AL	

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** **EPA 6020B**  
**Description:** 6020B MET ICPMS  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

### General Information:

3 samples were analyzed for EPA 6020B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 429937

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358621007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2342797)
  - Iron
  - Manganese
- MSD (Lab ID: 2342798)
  - Iron

### Additional Comments:

Analyte Comments:

QC Batch: 429937

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2342797)
  - Iron

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

---

**Method:** EPA 6020B  
**Description:** 6020B MET ICPMS  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

Analyte Comments:

QC Batch: 429937

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2342797)
  - Manganese
- MSD (Lab ID: 2342798)
  - Iron
  - Manganese

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

---

**Method:** **EPA 245.1**  
**Description:** 245.1 Mercury  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

**General Information:**

3 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Sample Preparation:**

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** **SM 2510B**  
**Description:** 2510B Specific Conductance  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

### **General Information:**

3 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

### **Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### **Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

Method: **SM 4500-H+B**  
Description: 4500H+ pH, Electrometric  
Client: Bristol Environmental Remediation Services, LLC  
Date: August 22, 2016

### General Information:

3 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- 1608TOWERMW16 (Lab ID: 10358347001)
- 1608TOWERMW16D (Lab ID: 10358347002)
- 1608TOWERMW18D (Lab ID: 10358347003)

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

---

**Method:** SM 4500-S2-D  
**Description:** 4500S2D Sulfide Water  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

**General Information:**

3 samples were analyzed for SM 4500-S2-D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

**Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** **SM 4500-S H**  
**Description:** 4500S2H Sulfide as H<sub>2</sub>S Calc  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

### **General Information:**

3 samples were analyzed for SM 4500-S H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

### **Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** SM 4500-NO3 H

**Description:** SM4500NO3-H, NO<sub>2</sub> + NO<sub>3</sub> pres.

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 22, 2016

### General Information:

3 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** ASTM D516  
**Description:** ASTM D516 Sulfate Water  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 22, 2016

### General Information:

3 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 430254

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358170001,10358349004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2340924)
  - Sulfate
- MSD (Lab ID: 2340925)
  - Sulfate

### Additional Comments:

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: Tower, WI  
Pace Project No.: 10358347

**Method:** **SM 4500-NO2 B**

**Description:** SM4500NO2-B, Nitrite, unpres

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 22, 2016

### **General Information:**

3 samples were analyzed for SM 4500-NO2 B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Tower, WI  
Pace Project No.: 10358347

Sample: 1608TOWERMW16      Lab ID: 10358347001      Collected: 08/08/16 10:55      Received: 08/09/16 09:30      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	1.4	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 13:58	7440-38-2	
Barium	181	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 13:58	7440-39-3	
Cadmium	ND	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 13:58	7440-43-9	
Chromium	7.3	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 13:58	7440-47-3	
Iron	17000	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 13:58	7439-89-6	
Lead	1.7	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 13:58	7439-92-1	
Manganese	1760	ug/L	5.0	1.3	10	08/18/16 16:36	08/19/16 14:35	7439-96-5	
Selenium	ND	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 13:58	7782-49-2	
Silver	ND	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 13:58	7440-22-4	B
<b>245.1 Mercury</b>	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury	ND	ug/L	0.072	0.031	1	08/11/16 21:00	08/14/16 17:59	7439-97-6	
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	662	umhos/cm	10.0	10.0	1			08/16/16 15:00	
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	6.6	Std. Units	0.10	0.10	1			08/15/16 18:48	H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	ND	mg/L	0.10	0.011	1			08/10/16 14:44	
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	ND	mg/L	0.10	0.020	1			08/16/16 16:40	AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	ND	mg/L	0.058	0.018	1			08/12/16 13:23	14797-55-8
Nitrogen, NO2 plus NO3	ND	mg/L	0.17	0.050	1			08/12/16 13:23	
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	7.2	mg/L	3.5	1.0	1			08/12/16 08:34	14808-79-8
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	ND	mg/L	0.012	0.0036	1			08/10/16 09:17	14797-65-0

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: Tower, WI  
Pace Project No.: 10358347

Sample: 1608TOWERMW16D      Lab ID: 10358347002      Collected: 08/08/16 13:00      Received: 08/09/16 09:30      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	<b>0.55</b>	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:01	7440-38-2	
Barium	<b>173</b>	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:01	7440-39-3	
Cadmium	ND	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:01	7440-43-9	
Chromium	<b>2.5</b>	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:01	7440-47-3	
Iron	<b>7220</b>	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:01	7439-89-6	
Lead	<b>0.41</b>	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:01	7439-92-1	
Manganese	<b>2260</b>	ug/L	5.0	1.3	10	08/18/16 16:36	08/19/16 14:37	7439-96-5	
Selenium	ND	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:01	7782-49-2	
Silver	ND	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:01	7440-22-4	B
<b>245.1 Mercury</b>	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury	ND	ug/L	0.072	0.031	1	08/11/16 21:00	08/14/16 18:01	7439-97-6	
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	<b>1020</b>	umhos/cm	10.0	10.0	1			08/16/16 15:01	
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	<b>7.1</b>	Std. Units	0.10	0.10	1			08/15/16 18:52	H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	ND	mg/L	0.10	0.011	1			08/10/16 14:36	
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	ND	mg/L	0.10	0.020	1			08/16/16 16:40	AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	ND	mg/L	0.058	0.018	1			08/12/16 13:27	14797-55-8
Nitrogen, NO2 plus NO3	ND	mg/L	0.17	0.050	1			08/12/16 13:27	
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	ND	mg/L	3.5	1.0	1			08/12/16 08:34	14808-79-8
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	ND	mg/L	0.012	0.0036	1			08/10/16 09:17	14797-65-0

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## ANALYTICAL RESULTS

Project: Tower, WI  
Pace Project No.: 10358347

Sample: 1608TOWERMW18D Lab ID: 10358347003 Collected: 08/08/16 13:30 Received: 08/09/16 09:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	<b>0.58</b>	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:03	7440-38-2	
Barium	<b>172</b>	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:03	7440-39-3	
Cadmium	ND	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:03	7440-43-9	
Chromium	<b>2.3</b>	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:03	7440-47-3	
Iron	<b>7200</b>	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:03	7439-89-6	
Lead	<b>0.42</b>	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:03	7439-92-1	
Manganese	<b>2250</b>	ug/L	5.0	1.3	10	08/18/16 16:36	08/20/16 16:10	7439-96-5	
Selenium	ND	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:03	7782-49-2	
Silver	ND	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:03	7440-22-4	B
<b>245.1 Mercury</b>	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury	ND	ug/L	0.072	0.031	1	08/11/16 21:00	08/14/16 18:03	7439-97-6	
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	<b>1030</b>	umhos/cm	10.0	10.0	1			08/16/16 15:02	
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	<b>7.4</b>	Std. Units	0.10	0.10	1			08/15/16 19:07	H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	<b>0.40</b>	mg/L	0.10	0.011	1			08/10/16 14:42	
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<b>0.11</b>	mg/L	0.10	0.020	1			08/16/16 16:40	AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	ND	mg/L	0.058	0.018	1			08/12/16 13:28	14797-55-8
Nitrogen, NO2 plus NO3	ND	mg/L	0.17	0.050	1			08/12/16 13:28	
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	ND	mg/L	3.5	1.0	1			08/12/16 08:34	14808-79-8
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	ND	mg/L	0.012	0.0036	1			08/10/16 09:17	14797-65-0

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## QUALITY CONTROL DATA

Project: Tower, WI  
Pace Project No.: 10358347

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QC Batch:	429746	Analysis Method:	EPA 245.1
QC Batch Method:	EPA 245.1	Analysis Description:	245.1 Mercury
Associated Lab Samples: 10358347001, 10358347002, 10358347003			

---

METHOD BLANK: 2338266 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.072	08/14/16 17:36	

---

LABORATORY CONTROL SAMPLE: 2338267

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	91	85-115	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2338268 2338269

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Mercury	ug/L	<0.00020 mg/L	5	5	4.3	4.4	87	87	70-130	0	20

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## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: Tower, WI  
Pace Project No.: 10358347

QC Batch: 429937 Analysis Method: EPA 6020B  
QC Batch Method: EPA 3020 Analysis Description: 6020B Water UPD5  
Associated Lab Samples: 10358347001, 10358347002, 10358347003

METHOD BLANK: 2339230 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Arsenic	ug/L	ND	0.50	08/19/16 14:16	
Barium	ug/L	ND	0.30	08/19/16 14:16	
Cadmium	ug/L	ND	0.080	08/19/16 14:16	
Chromium	ug/L	ND	0.50	08/19/16 14:16	
Iron	ug/L	ND	50.0	08/19/16 14:16	
Lead	ug/L	ND	0.10	08/19/16 14:16	
Manganese	ug/L	ND	0.50	08/19/16 14:16	
Selenium	ug/L	ND	0.50	08/20/16 16:08	
Silver	ug/L	ND	0.50	08/19/16 14:16	

LABORATORY CONTROL SAMPLE: 2339231

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Arsenic	ug/L	100	89.0	89	80-120	
Barium	ug/L	100	102	102	80-120	
Cadmium	ug/L	100	101	101	80-120	
Chromium	ug/L	100	103	103	80-120	
Iron	ug/L	2000	1850	92	80-120	
Lead	ug/L	100	103	103	80-120	
Manganese	ug/L	100	100	100	80-120	
Selenium	ug/L	100	92.5	92	80-120	
Silver	ug/L	50	47.2	94	80-120	

MATRIX SPIKE &amp; MATRIX SPIKE DUPLICATE: 2342797 2342798

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	
		10358621007	Spike	Spike	Spike	Result	Result	% Rec	% Rec	RPD	RPD
Arsenic	ug/L	0.43J	100	100	92.4	86.1	92	86	75-125	7	20
Barium	ug/L	299	100	100	399	401	100	102	75-125	1	20
Cadmium	ug/L	<0.013	100	100	101	101	101	101	75-125	1	20
Chromium	ug/L	4.4	100	100	105	105	101	101	75-125	0	20
Iron	ug/L	65700	2000	2000	60200	56400	-274	-466	75-125	7	20 E,M1
Lead	ug/L	0.41	100	100	100	100	100	100	75-125	0	20
Manganese	ug/L	1580	100	100	1660	1680	73	100	75-125	2	20 E,M1
Selenium	ug/L	0.19J	100	100	94.1	83.7	94	83	75-125	12	20
Silver	ug/L	0.013J	50	50	45.6	41.9	91	84	75-125	9	20

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## QUALITY CONTROL DATA

Project: Tower, WI  
Pace Project No.: 10358347

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QC Batch:	430853	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples: 10358347001, 10358347002, 10358347003			

---

METHOD BLANK: 2343818 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	08/16/16 14:58	

---

LABORATORY CONTROL SAMPLE: 2343819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1010	101	90-110	

---

SAMPLE DUPLICATE: 2343820

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1020	1020	0	20	

---

SAMPLE DUPLICATE: 2343821

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2100	2100	0	20	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: Tower, WI  
Pace Project No.: 10358347

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QC Batch:	430697	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples: 10358347001, 10358347002, 10358347003			

---

LABORATORY CONTROL SAMPLE: 2343119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

---

SAMPLE DUPLICATE: 2343120

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.2	1	3	H6

---

SAMPLE DUPLICATE: 2343121

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.4	0	3	H6

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**QUALITY CONTROL DATA**

Project: Tower, WI  
Pace Project No.: 10358347

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QC Batch:	429845	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
Associated Lab Samples:	10358347001, 10358347002, 10358347003		

---

METHOD BLANK: 2338757 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	0.10	08/10/16 14:24	

---

LABORATORY CONTROL SAMPLE: 2338758

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	.98	0.98	100	80-120	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2338759 2338760

Parameter	Units	MS Result	MS Spike Conc.	MSD Result	MS Spike Conc.	MS Result	MS % Rec	MSD Result	MS % Rec	% Rec Limits	RPD	RPD	Max Qual
Sulfide	mg/L	ND	.98	.98	.98	0.92	0.95	95	97	80-120	3	20	

---

SAMPLE DUPLICATE: 2338761

Parameter	Units	10358347001 Result	Dup Result	Max RPD	Qualifiers
Sulfide	mg/L	ND	ND	20	

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**QUALITY CONTROL DATA**

Project: Tower, WI  
Pace Project No.: 10358347

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QC Batch:	430242	Analysis Method:	SM 4500-NO3 H
QC Batch Method:	SM 4500-NO3 H	Analysis Description:	SM4500NO3-H, NO <sub>2</sub> + NO <sub>3</sub> pres.
Associated Lab Samples:	10358347001, 10358347002, 10358347003		

---

METHOD BLANK: 2340871 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	0.17	08/12/16 12:59	

---

LABORATORY CONTROL SAMPLE: 2340872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2.5	2.5	99	90-110	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2340873 2340874

Parameter	Units	10357827002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	8.45	2.5	2.5	10.9	10.8	97	93	80-120	1	30	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2340875 2340876

Parameter	Units	10357853006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2.5	2.5	2.5	2.4	98	95	80-120	2	30	

---

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**QUALITY CONTROL DATA**

Project: Tower, WI  
Pace Project No.: 10358347

QC Batch:	430254	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10358347001, 10358347002, 10358347003		

METHOD BLANK: 2340919 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	3.5	08/12/16 08:23	

LABORATORY CONTROL SAMPLE & LCSD:	2340920	2340921									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Sulfate	mg/L	7.5	8.3	8.3	111	111	80-120	0	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2340922	2340923										
Parameter	Units	10358170001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Sulfate	mg/L	ND	20	20	19.4	19.5	94	95	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2340924	2340925										
Parameter	Units	10358349004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Sulfate	mg/L	25.7	20	20	40.6	39.3	75	68	80-120	3	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: Tower, WI  
Pace Project No.: 10358347

---

QC Batch:	429639	Analysis Method:	SM 4500-NO2 B
QC Batch Method:	SM 4500-NO2 B	Analysis Description:	SM4500NO2-B, Nitrite, unpres
Associated Lab Samples:	10358347001, 10358347002, 10358347003		

---

METHOD BLANK: 2337776 Matrix: Water

Associated Lab Samples: 10358347001, 10358347002, 10358347003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrite as N	mg/L	ND	0.012	08/10/16 19:17	

---

LABORATORY CONTROL SAMPLE: 2337777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	.3	0.31	102	90-110	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2337778 2337779

Parameter	Units	10357833008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Nitrite as N	mg/L	3.48	3	3	6.1	6.2	89	89	80-120	0	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

## QUALIFIERS

Project: Tower, WI  
Pace Project No.: 10358347

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-MT Pace Analytical Services - Montana

### ANALYTE QUALIFIERS

AL The lab does not hold A2LA accreditation for this parameter.

B Analyte was detected in the associated method blank.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

## REPORT OF LABORATORY ANALYSIS

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Tower, WI  
Pace Project No.: 10358347

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10358347001	1608TOWERMW16	EPA 3020	429937	EPA 6020B	431485
10358347002	1608TOWERMW16D	EPA 3020	429937	EPA 6020B	431485
10358347003	1608TOWERMW18D	EPA 3020	429937	EPA 6020B	431485
10358347001	1608TOWERMW16	EPA 245.1	429746	EPA 245.1	430319
10358347002	1608TOWERMW16D	EPA 245.1	429746	EPA 245.1	430319
10358347003	1608TOWERMW18D	EPA 245.1	429746	EPA 245.1	430319
10358347001	1608TOWERMW16	SM 2510B	430853		
10358347002	1608TOWERMW16D	SM 2510B	430853		
10358347003	1608TOWERMW18D	SM 2510B	430853		
10358347001	1608TOWERMW16	SM 4500-H+B	430697		
10358347002	1608TOWERMW16D	SM 4500-H+B	430697		
10358347003	1608TOWERMW18D	SM 4500-H+B	430697		
10358347001	1608TOWERMW16	SM 4500-S2-D	429845		
10358347002	1608TOWERMW16D	SM 4500-S2-D	429845		
10358347003	1608TOWERMW18D	SM 4500-S2-D	429845		
10358347001	1608TOWERMW16	SM 4500-S H	430947		
10358347002	1608TOWERMW16D	SM 4500-S H	430947		
10358347003	1608TOWERMW18D	SM 4500-S H	430947		
10358347001	1608TOWERMW16	SM 4500-NO3 H	430242		
10358347002	1608TOWERMW16D	SM 4500-NO3 H	430242		
10358347003	1608TOWERMW18D	SM 4500-NO3 H	430242		
10358347001	1608TOWERMW16	ASTM D516	430254		
10358347002	1608TOWERMW16D	ASTM D516	430254		
10358347003	1608TOWERMW18D	ASTM D516	430254		
10358347001	1608TOWERMW16	SM 4500-NO2 B	429639		
10358347002	1608TOWERMW16D	SM 4500-NO2 B	429639		
10358347003	1608TOWERMW18D	SM 4500-NO2 B	429639		

**REPORT OF LABORATORY ANALYSIS**

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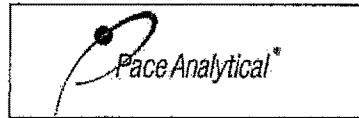
10358347



## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a **LEGAL DOCUMENT**. All relevant fields must be completed accurately.

Section A		Section B		Section C																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Company: Bristol Environmental Remediation Services, LLC Address: 111 W. 16th Avenue Anchorage, AK 99501 Email: mfaust@bristol-companies.com Phone: (907)43-9346   Fax:		Report To: Matt Faust Copy To: Purchase Order #: Project Name: Tower, WI Project #:		Attention: Company Name: Address: Pace Quote: Pace Project Manager: shawn.davis@pacelabs.com, Pace Profile #: 35445		Page : 1 Of 1 Regulatory Agency: State / Location: WI																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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(A-Z, 0-9, -, ) Sample Ids must be unique</small></th> <th colspan="4" style="text-align: center; background-color: #cccccc;">COLLECTED</th> <th colspan="4" style="text-align: center; background-color: #cccccc;">Preservatives</th> <th colspan="4" style="text-align: center; background-color: #cccccc;">Requested Analysis Filtered (Y/N)</th> </tr> <tr> <th colspan="2" style="text-align: center;">START</th> <th colspan="2" style="text-align: center;">END</th> <th colspan="2" style="text-align: center;"># OF CONTAINERS</th> <th colspan="2" style="text-align: center;">Y/N</th> <th colspan="2" style="text-align: center;">ANALYSES TEST</th> <th colspan="2" style="text-align: center;">Y/N</th> </tr> <tr> <th>MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue</th> <th>CODE CW WT WW P SL L WP AR CT TS</th> <th>SAMPLE TYPE (G-GRAB or COMP)</th> <th>DATE</th> <th>TIME</th> <th>DATE</th> <th>TIME</th> <th>Unpreserved</th> <th>H2SO4</th> <th>HNO3</th> <th>HCl</th> <th>NaSCN</th> <th>MeOH</th> <th>Other</th> <th>VOC by 6260</th> <th>EDB 8011</th> <th>GRO by WIGRO</th> <th>Sulfate/Nitrate</th> <th>Nitrate + Nitrite</th> <th>Metals by 6220</th> <th>DRO by WIDRO</th> <th>Sulfide by SM4500-52-D</th> <th>BTX by 8260</th> <th>6010 - Pb</th> <th>Moisture/Dry weight</th> <th>Residual Chlorine (Y/N)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>11008-TOWERMW14</td> <td>W</td> <td>8/18/16</td> <td>10:55</td> <td></td> <td></td> <td>4</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> <td>MW-14</td> </tr> <tr> <td>2</td> <td>11008-TOWERMW16D</td> <td>W</td> <td></td> <td>13:00</td> <td></td> <td></td> <td>1</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> <td>MW-16D</td> </tr> <tr> <td>3</td> <td>11008-TOWERMW18D</td> <td>W</td> <td></td> <td>13:30</td> <td></td> <td></td> <td>1</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td>X</td> <td>MW-18D</td> </tr> <tr> <td>4</td> <td></td> </tr> <tr> <td>5</td> <td></td> </tr> <tr> <td>6</td> <td></td> </tr> <tr> <td>7</td> <td></td> </tr> <tr> <td>8</td> <td></td> </tr> <tr> <td>9</td> <td></td> </tr> <tr> <td>10</td> <td></td> </tr> <tr> <td>11</td> <td></td> </tr> <tr> <td>12</td> <td></td> </tr> <tr> <td colspan="2" style="text-align: center;">ADDITIONAL COMMENTS:</td> <td colspan="2" style="text-align: center;">RElinquished At/Affiliation:</td> <td style="text-align: center;">DATE:</td> <td style="text-align: center;">TIME:</td> <td colspan="2" style="text-align: center;">Accepted By/Affiliation:</td> <td style="text-align: center;">DATE:</td> <td style="text-align: center;">TIME:</td> <td colspan="4" style="text-align: center;">SAMPLE CONDITIONS:</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td style="text-align: center;">8/8/16</td> <td style="text-align: center;">14:30</td> <td colspan="2"></td> <td style="text-align: center;">8/9/16</td> <td style="text-align: center;">9:30</td> <td style="text-align: center;">18</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">Y</td> <td style="text-align: center;">Y</td> <td colspan="4"></td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2" style="text-align: center;">Robert Beckman</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="4"></td> <td colspan="4"></td> </tr> <tr> <td colspan="8" style="text-align: center;">SAMPLER NAME AND SIGNATURE</td> <td colspan="8" style="text-align: center;">TEMP in C</td> </tr> <tr> <td colspan="8" style="text-align: center;">PRINT Name of SAMPLER: Robert Beckman</td> <td colspan="8" style="text-align: center;">Received on (Y/N)</td> </tr> <tr> <td colspan="8" style="text-align: center;">SIGNATURE of SAMPLER: </td> <td colspan="8" style="text-align: center;">Custody Sealed Cooler (Y/N)</td> </tr> <tr> <td colspan="8" style="text-align: center;">DATE Signed: 8/8/16</td> <td colspan="8" style="text-align: center;">Samples In tact (Y/N)</td> </tr> </tbody> </table>								ITEM #	SAMPLE ID <small>One Character per box. 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Document Name:  
Sample Condition Upon Receipt FormDocument Revised: 04Apr2016  
Page 1 of 1Document No.:  
F-MN-L-Z13-rev.16Issuing Authority:  
Pace Minnesota Quality OfficeSample Condition  
Upon Receipt

Client Name:

Bristol Enviro Remediation

Project #:

WO# : 10358347

Courier:

 Fed Ex     UPS     USPS     Client Commercial Pace     SpeeDee     Other:

Tracking Number:

7837 7278 4727



10358347

Custody Seal on Cooler/Box Present?  Yes     NoSeals Intact?  Yes     No

Optional: Proj. Due Date: \_\_\_\_\_ Proj. Name: \_\_\_\_\_

Packing Material:  Bubble Wrap Bubble Bags     None Other: plastic bagsTemp Blank?  Yes     NoThermometer Used:  151401163 B88A912167504Type of Ice:  Wet     Blue None Samples on ice, cooling process has begun 151401164 B88A0143310098 B88A0143310098 B88A0143310098

Cooler Temp Read (°C): 1.8

Cooler Temp Corrected (°C): 1.8

Temp should be above freezing to 6°C

Correction Factor: 1.0

USDA Regulated Soil. ( N/A, water sample)Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, IA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?  Yes     No including Hawaii and Puerto Rico?  Yes     No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:		
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Sufficient Volume?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Correct Containers Used? -Pace Containers Used?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Containers Intact?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/B015 (water) DOC	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Trip Blank Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
Pace Trip Blank Lot # (if purchased):			
Initial when completed:			
Lot # of added preservative:			
13. <input checked="" type="checkbox"/> HNO <sub>3</sub> <input checked="" type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl			
Sample # 1-3			
14.			
15.			

## CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes  No

Person Contacted: Matt Faust (email)

Date/Time: 8/9/16

Comments/Resolution:

Double check required metals list 6020, as well as H2S test.

Project Manager Review:

*Shawn Davis*

Date:

8/9/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

## Intra-Regional Chain of Custody



Workorder: 10358347	Workorder Name: Tower, WI	Owner Received Date: 8/9/2016	Due Date: 8/23/2016										
Received at: Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700		Send To Lab: Pace Analytical Billings MT 150 N Ninth Street Billings, MT 59101 Phone (406)254-7226											
Report To: Shawn Davis		Requested Analysis											
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers							LAB USE ONLY
						Other							
1	1608TOWERMW16	PS	8/8/2016 10:55	10358347001	Water	X	X						
2	1608TOWERMW16D	PS	8/8/2016 13:00	10358347002	Water	X	X						
3	1608TOWERMW18D	PS	8/8/2016 13:30	10358347003	Water	X	X						
4													
5													
Comments													
Transfers	Released By	Date/Time	Received By	Date/Time	<p><i>Shawn Davis/Pace 8/9/16 1330</i></p> <p><i>Lead Ex</i></p> <p><i>Meredith Pace 8/10/16 1000</i></p> <p>PH, conductance done in mhos</p>								
1													
2													
3													
4													
Cooler Temperature on Receipt 0.6 °C			Custody Seal <input checked="" type="checkbox"/> or N	Received on Ice <input checked="" type="checkbox"/> or N	Samples Intact <input checked="" type="checkbox"/> or N								

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

<i>Pace Analytical</i>	Document Name: Sample Condition Upon Receipt Form	Document Revised: 04Aug2016 Page 1 of 1
	Document No.: F-MT-C-184-Rev.10	Issuing Authority: Pace Montana Quality Office

Sample Condition Upon Receipt	Client Name: <i>Pace - MT</i>	Project #: <i>1035 8347</i>
Courier:	<input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other: _____	
Tracking Number:	<i>67515818 8004</i>	
Custody Seal on Cooler/Box Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material:	<input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used:	<input checked="" type="checkbox"/> 160285052 <input type="checkbox"/> 140279186	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun <input type="checkbox"/> NA
Cooler Temp Read:	<i>1.1</i>	
Cooler Temp Corrected:	<i>0.6</i>	
Temp should be above freezing to 6°C	Comments: _____	
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? -Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? <i>H2O</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix:		
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <i>3/3</i> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <i>001 - 003</i>
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: <i>me</i> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): <i>NA</i>		

**CLIENT NOTIFICATION/RESOLUTION**

 Field Data Required?     Yes     No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

 Comments/Resolution: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

 Project Manager Review: *Pharrell Janis*

 Date: *8/10/16*

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

## Intra-Regional Chain of Custody



Workorder: 10358347	Workorder Name: Tower, WI	Owner Received Date: 8/9/2016	Due Date: 8/23/2016																																																																																																																																								
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<table border="1"> <thead> <tr> <th colspan="6">Preserved Containers</th> <th colspan="10">Requested Analysis</th> </tr> <tr> <th>Item</th> <th>Sample ID</th> <th>Sample Type</th> <th>Collect Date/Time</th> <th>Lab ID</th> <th>Matrix</th> <th>Other</th> <th>Unpreserved</th> <th></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1608TOWERMW16</td> <td>PS</td> <td>8/8/2016 10:55</td> <td>10358347001</td> <td>Water</td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>1608TOWERMW16D</td> <td>PS</td> <td>8/8/2016 13:00</td> <td>10358347002</td> <td>Water</td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>1608TOWERMW18D</td> <td>PS</td> <td>8/8/2016 13:30</td> <td>10358347003</td> <td>Water</td> <td>X</td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> </tr> <tr> <td>5</td> <td></td> </tr> </tbody> </table>				Preserved Containers						Requested Analysis										Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Other	Unpreserved													1	1608TOWERMW16	PS	8/8/2016 10:55	10358347001	Water	X		X	X	X										2	1608TOWERMW16D	PS	8/8/2016 13:00	10358347002	Water	X		X	X	X										3	1608TOWERMW18D	PS	8/8/2016 13:30	10358347003	Water	X		X	X	X										4																				5																			
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1	<i>Dawn Joann Paauw</i>	8-12-16 1500	<i>Patricia Rien</i>	8/13/2016 1030	<i>Sulfide, H2S bottle already sent 8/11</i>																																																																																																																																						
2	<i>Red EX</i>																																																																																																																																										
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Cooler Temperature on Receipt 1.3°C			Custody Seal <input checked="" type="radio"/> or N	Received on Ice <input checked="" type="radio"/> or N	Samples Intact <input checked="" type="radio"/> or N																																																																																																																																						

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

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	Document Name: <b>Sample Condition Upon Receipt Form</b>	Document Revised: 04Aug2016 Page 1 of 1
	Document No.: <b>F-MT-C-184-Rev.10</b>	Issuing Authority: Pace Montana Quality Office

<b>Sample Condition Upon Receipt</b>	<b>Client Name:</b> <i>Pace MN</i>	<b>Project #:</b> <i>1035 8347</i>
Courier:	<input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other: _____	
Tracking Number:	<i>6751 5818 9445</i>	
Custody Seal on Cooler/Box Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Packing Material:	<input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used:	<input checked="" type="checkbox"/> 160285052 <input type="checkbox"/> 140279186	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun <input type="checkbox"/> N/A
Cooler Temp Read:	<i>1.8</i>	
Cooler Temp Corrected:	<i>1.3</i>	
Temp should be above freezing to 6°C		
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Comments: 1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? -Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: <i>WT</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl Sample # <i>NA</i>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): <i>NA</i>		

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Comments/Resolution: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Project Manager Review: *Phaeem Janis* Date: *8/15/16*

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

August 29, 2016

Matt Faust  
Bristol Environmental Remediation Services,  
LLC  
111 W. 16th Avenue  
Anchorage, AK 99501

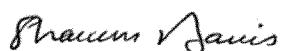
RE: Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Dear Matt Faust:

Enclosed are the analytical results for sample(s) received by the laboratory on August 10, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Shawn Davis  
shawn.davis@pacelabs.com  
Project Manager

Enclosures



#### REPORT OF LABORATORY ANALYSIS

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Page 1 of 88

## CERTIFICATIONS

Project: BERS#34170026; EPA TO 3012 Tow  
 Pace Project No.: 10358621

### Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414	Minnesota Certification #: 027-053-137
525 N 8th Street, Salina, KS 67401	Mississippi Certification #: Pace
A2LA Certification #: 2926.01	Montana Certification #: MT0092
Alaska Certification #: UST-078	Nevada Certification #: MN_00064
Alaska Certification #MN00064	Nebraska Certification #: Pace
Alabama Certification #40770	New Jersey Certification #: MN-002
Arizona Certification #: AZ-0014	New York Certification #: 11647
Arkansas Certification #: 88-0680	North Carolina Certification #: 530
California Certification #: 01155CA	North Carolina State Public Health #: 27700
Colorado Certification #Pace	North Dakota Certification #: R-036
Connecticut Certification #: PH-0256	Ohio EPA #: 4150
EPA Region 8 Certification #: 8TMS-L	Ohio VAP Certification #: CL101
Florida/NELAP Certification #: E87605	Oklahoma Certification #: 9507
Guam Certification #: 14-008r	Oregon Certification #: MN200001
Georgia Certification #: 959	Oregon Certification #: MN300001
Georgia EPD #: Pace	Pennsylvania Certification #: 68-00563
Idaho Certification #: MN00064	Puerto Rico Certification
Hawaii Certification #MN00064	Saipan (CNMI) #: MP0003
Illinois Certification #: 200011	South Carolina #: 74003001
Indiana Certification #C-MN-01	Texas Certification #: T104704192
Iowa Certification #: 368	Tennessee Certification #: 02818
Kansas Certification #: E-10167	Utah Certification #: MN000642013-4
Kentucky Dept of Envi. Protection - DW #90062	Virginia DGS Certification #: 251
Kentucky Dept of Envi. Protection - WW #: 90062	Virginia/VELAP Certification #: Pace
Louisiana DEQ Certification #: 3086	Washington Certification #: C486
Louisiana DHH #: LA140001	West Virginia Certification #: 382
Maine Certification #: 2013011	West Virginia DHHR #: 9952C
Maryland Certification #: 322	Wisconsin Certification #: 999407970
Michigan DEPH Certification #: 9909	

### Montana Certification IDs

150 N. 9th Street, Billings, MT 59101	Minnesota Dept of Health Certification #: 030-999-442
A2LA Certification #: 3590.01	Montana Certification #: MT CERT0040
EPA Region 8 Certification #: 8TMS-L	North Dakota Dept. Of Health #: R-209
Idaho Certification #: MT00012	Washington Department of Ecology #: C993

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE SUMMARY

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10358621001	1608TOWERMW16	Water	08/08/16 10:55	08/10/16 12:23
10358621002	1608TOWERMW16D	Water	08/08/16 13:00	08/10/16 12:23
10358621003	1608TOWERMW18D	Water	08/08/16 13:30	08/10/16 12:23
10358621004	1608TOWERMW16E	Water	08/09/16 09:00	08/10/16 12:23
10358621005	1608TOWERMW21	Water	08/09/16 11:20	08/10/16 12:23
10358621006	1608TOWERMW21M	Water	08/09/16 13:00	08/10/16 12:23
10358621007	1608TOWERMW21D	Water	08/09/16 14:50	08/10/16 12:23
10358621008	1608TOWERTB1	Solid	08/05/16 08:00	08/10/16 12:23
10358621009	1608TOWERIDWSS	Solid	08/05/16 14:30	08/10/16 12:23
10358621010	1608TOWERTB2	Water	08/08/16 08:00	08/10/16 12:23
10358621011	1608TOWEREQB	Water	08/09/16 09:30	08/10/16 12:23

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10358621001	1608TOWERMW16	EPA 8011	XV1	2	PASI-M
		EPA 8260B	PRD	70	PASI-M
10358621002	1608TOWERMW16D	EPA 8011	XV1	2	PASI-M
		EPA 8260B	EMC, PRD	70	PASI-M
10358621003	1608TOWERMW18D	EPA 8011	XV1	2	PASI-M
		EPA 8260B	EMC, PRD	70	PASI-M
10358621004	1608TOWERMW16E	EPA 8011	XV1	2	PASI-M
		EPA 6020B	TT3	9	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	EMC, PRD	70	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M
10358621005	1608TOWERMW21	EPA 8011	XV1	2	PASI-M
		EPA 6020B	TT3	9	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	EMC, PRD	70	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M
10358621006	1608TOWERMW21M	EPA 8011	XV1	2	PASI-M
		EPA 6020B	TT3	9	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	EMC, PRD	70	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M

## REPORT OF LABORATORY ANALYSIS

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## SAMPLE ANALYTE COUNT

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10358621007	1608TOWERMW21D	ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M
		EPA 8011	XV1	2	PASI-M
		EPA 6020B	TT3	9	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	EMC	70	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
10358621008	1608TOWERTB1	SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
10358621009	1608TOWERIDWSS	SM 4500-NO2 B	KEO	1	PASI-M
		EPA 8260B	MRB	7	PASI-M
10358621010	1608TOWERTB2	EPA 6020B	TT3	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
10358621011	1608TOWEREQB	EPA 8260B	MRB	7	PASI-M
		EPA 8011	XV1	2	PASI-M
10358621011	1608TOWEREQB	EPA 8011	XV1	2	PASI-M
		EPA 6020B	TT3	9	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	EMC	70	PASI-M
		SM 2510B	CAC	1	PASI-MT
		SM 4500-H+B	CAC	1	PASI-MT
		SM 4500-S2-D	JME	1	PASI-MT
		SM 4500-S H	VRJ	1	PASI-MT
		SM 4500-NO3 H	DCL	2	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-NO2 B	KEO	1	PASI-M

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
<b>10358621001</b>	<b>1608TOWERMW16</b>						
EPA 8260B	Acetone	2.4J	ug/L	20.0	08/11/16 21:16	B	
EPA 8260B	Benzene	0.75J	ug/L	1.0	08/11/16 21:16		
<b>10358621002</b>	<b>1608TOWERMW16D</b>						
EPA 8260B	Benzene	1240	ug/L	20.0	08/14/16 16:30		
EPA 8260B	n-Butylbenzene	3.3	ug/L	1.0	08/12/16 01:53		
EPA 8260B	sec-Butylbenzene	4.0	ug/L	1.0	08/12/16 01:53		
EPA 8260B	Ethylbenzene	61.8	ug/L	1.0	08/12/16 01:53		
EPA 8260B	Isopropylbenzene (Cumene)	26.0	ug/L	1.0	08/12/16 01:53		
EPA 8260B	p-Isopropyltoluene	1.6	ug/L	1.0	08/12/16 01:53		
EPA 8260B	4-Methyl-2-pentanone (MIBK)	0.69J	ug/L	5.0	08/12/16 01:53		
EPA 8260B	Methyl-tert-butyl ether	1.9	ug/L	1.0	08/12/16 01:53		
EPA 8260B	Naphthalene	109	ug/L	4.0	08/12/16 01:53		
EPA 8260B	n-Propylbenzene	66.9	ug/L	1.0	08/12/16 01:53		
EPA 8260B	Toluene	22.2	ug/L	1.0	08/12/16 01:53		
EPA 8260B	1,2,4-Trimethylbenzene	367	ug/L	20.0	08/14/16 16:30		
EPA 8260B	1,3,5-Trimethylbenzene	79.5	ug/L	1.0	08/12/16 01:53		
EPA 8260B	Xylene (Total)	1610	ug/L	60.0	08/14/16 16:30		
<b>10358621003</b>	<b>1608TOWERMW18D</b>						
EPA 8260B	Benzene	1300	ug/L	20.0	08/15/16 21:59		
EPA 8260B	n-Butylbenzene	3.5	ug/L	1.0	08/12/16 02:09		
EPA 8260B	sec-Butylbenzene	4.3	ug/L	1.0	08/12/16 02:09		
EPA 8260B	Ethylbenzene	65.3	ug/L	1.0	08/12/16 02:09		
EPA 8260B	Isopropylbenzene (Cumene)	26.7	ug/L	1.0	08/12/16 02:09		
EPA 8260B	p-Isopropyltoluene	1.7	ug/L	1.0	08/12/16 02:09		
EPA 8260B	4-Methyl-2-pentanone (MIBK)	0.72J	ug/L	5.0	08/12/16 02:09		
EPA 8260B	Methyl-tert-butyl ether	2.3	ug/L	1.0	08/12/16 02:09		
EPA 8260B	Naphthalene	114	ug/L	4.0	08/12/16 02:09		
EPA 8260B	n-Propylbenzene	69.5	ug/L	1.0	08/12/16 02:09		
EPA 8260B	Toluene	23.0	ug/L	1.0	08/12/16 02:09		
EPA 8260B	1,2,4-Trimethylbenzene	336	ug/L	20.0	08/15/16 21:59		
EPA 8260B	1,3,5-Trimethylbenzene	84.3	ug/L	1.0	08/12/16 02:09		
EPA 8260B	Xylene (Total)	1410	ug/L	60.0	08/15/16 21:59		
<b>10358621004</b>	<b>1608TOWERMW16E</b>						
EPA 6020B	Arsenic	0.59	ug/L	0.50	08/19/16 14:05		
EPA 6020B	Barium	205	ug/L	0.30	08/19/16 14:05		
EPA 6020B	Chromium	2.3	ug/L	0.50	08/19/16 14:05		
EPA 6020B	Iron	1460	ug/L	50.0	08/19/16 14:05		
EPA 6020B	Lead	0.29	ug/L	0.10	08/19/16 14:05	B	
EPA 6020B	Manganese	1650	ug/L	5.0	08/20/16 16:13		
EPA 6020B	Selenium	0.18J	ug/L	0.50	08/19/16 14:05		
EPA 8260B	Acetone	10J	ug/L	20.0	08/12/16 09:19	B	
EPA 8260B	Benzene	768	ug/L	20.0	08/14/16 16:46		
EPA 8260B	n-Butylbenzene	0.59J	ug/L	1.0	08/12/16 09:19		
EPA 8260B	sec-Butylbenzene	1.3	ug/L	1.0	08/12/16 09:19		
EPA 8260B	1,4-Dichlorobenzene	0.28J	ug/L	1.0	08/12/16 09:19		
EPA 8260B	Ethylbenzene	8.9	ug/L	1.0	08/12/16 09:19		

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
<b>10358621004</b>	<b>1608TOWERMW16E</b>						
EPA 8260B	Isopropylbenzene (Cumene)	9.9	ug/L	1.0	08/12/16 09:19		
EPA 8260B	p-Isopropyltoluene	0.52J	ug/L	1.0	08/12/16 09:19		
EPA 8260B	Methyl-tert-butyl ether	10.0	ug/L	1.0	08/12/16 09:19		
EPA 8260B	Naphthalene	28.2	ug/L	4.0	08/12/16 09:19		
EPA 8260B	n-Propylbenzene	18.4	ug/L	1.0	08/12/16 09:19		
EPA 8260B	Toluene	6.1	ug/L	1.0	08/12/16 09:19		
EPA 8260B	1,2,4-Trimethylbenzene	96.6	ug/L	1.0	08/12/16 09:19		
EPA 8260B	1,3,5-Trimethylbenzene	16.9	ug/L	1.0	08/12/16 09:19		
EPA 8260B	Xylene (Total)	506	ug/L	3.0	08/12/16 09:19		
SM 2510B	Specific Conductance	1570	umhos/cm	10.0	08/16/16 15:02		
SM 4500-H+B	pH at 25 Degrees C	7.7	Std. Units	0.10	08/15/16 19:10	H6	
SM 4500-S2-D	Sulfide	0.024J	mg/L	0.10	08/16/16 13:29		
ASTM D516	Sulfate	1.2J	mg/L	3.5	08/12/16 09:05		
SM 4500-NO2 B	Nitrite as N	0.0044J	mg/L	0.012	08/11/16 09:00	H1	
<b>10358621005</b>	<b>1608TOWERMW21</b>						
EPA 8011	1,2-Dibromoethane (EDB)	0.0072J	ug/L	0.0098	08/18/16 04:37		
EPA 6020B	Arsenic	2.3	ug/L	0.50	08/19/16 14:19		
EPA 6020B	Barium	95.9	ug/L	0.30	08/19/16 14:19		
EPA 6020B	Cadmium	0.078J	ug/L	0.080	08/19/16 14:19		
EPA 6020B	Chromium	8.5	ug/L	0.50	08/19/16 14:19		
EPA 6020B	Iron	19200	ug/L	50.0	08/19/16 14:19		
EPA 6020B	Lead	8.6	ug/L	0.10	08/19/16 14:19		
EPA 6020B	Manganese	6550	ug/L	10.0	08/20/16 16:15		
EPA 6020B	Selenium	0.39J	ug/L	0.50	08/19/16 14:19		
EPA 6020B	Silver	0.042J	ug/L	0.50	08/19/16 14:19	B	
EPA 8260B	Acetone	37.3	ug/L	20.0	08/12/16 09:34		
EPA 8260B	Benzene	458	ug/L	25.0	08/14/16 17:01		
EPA 8260B	n-Butylbenzene	52.4	ug/L	1.0	08/12/16 09:34		
EPA 8260B	sec-Butylbenzene	21.6	ug/L	1.0	08/12/16 09:34		
EPA 8260B	Ethylbenzene	1700	ug/L	25.0	08/14/16 17:01		
EPA 8260B	Isopropylbenzene (Cumene)	111	ug/L	1.0	08/12/16 09:34		
EPA 8260B	p-Isopropyltoluene	15.9	ug/L	1.0	08/12/16 09:34		
EPA 8260B	4-Methyl-2-pentanone (MIBK)	9.4	ug/L	5.0	08/12/16 09:34		
EPA 8260B	Methyl-tert-butyl ether	0.24J	ug/L	1.0	08/12/16 09:34		
EPA 8260B	Naphthalene	703	ug/L	100	08/14/16 17:01		
EPA 8260B	n-Propylbenzene	268	ug/L	25.0	08/14/16 17:01		
EPA 8260B	Styrene	12.5	ug/L	1.0	08/12/16 09:34		
EPA 8260B	Toluene	3280	ug/L	25.0	08/14/16 17:01		
EPA 8260B	1,2,4-Trimethylbenzene	2920	ug/L	25.0	08/14/16 17:01		
EPA 8260B	1,3,5-Trimethylbenzene	744	ug/L	25.0	08/14/16 17:01		
EPA 8260B	Xylene (Total)	9060	ug/L	75.0	08/14/16 17:01		
SM 2510B	Specific Conductance	411	umhos/cm	10.0	08/16/16 15:04		
SM 4500-H+B	pH at 25 Degrees C	6.7	Std. Units	0.10	08/15/16 19:12	H6	
SM 4500-S2-D	Sulfide	0.022J	mg/L	0.10	08/16/16 13:30		
SM 4500-NO3 H	Nitrate as N	0.047J	mg/L	0.058	08/24/16 09:12		
ASTM D516	Sulfate	1.5J	mg/L	3.5	08/12/16 09:05		

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
10358621006	<b>1608TOWERMW21M</b>						
EPA 8011	1,2-Dibromoethane (EDB)	0.011	ug/L	0.0099	08/18/16 05:03		
EPA 6020B	Arsenic	1.5	ug/L	0.50	08/19/16 14:21		
EPA 6020B	Barium	80.9	ug/L	0.30	08/19/16 14:21		
EPA 6020B	Cadmium	0.057J	ug/L	0.080	08/19/16 14:21		
EPA 6020B	Chromium	9.5	ug/L	0.50	08/19/16 14:21		
EPA 6020B	Iron	8830	ug/L	50.0	08/19/16 14:21		
EPA 6020B	Lead	2.8	ug/L	0.10	08/19/16 14:21		
EPA 6020B	Manganese	3170	ug/L	10.0	08/20/16 16:18		
EPA 6020B	Selenium	0.43J	ug/L	0.50	08/19/16 14:21		
EPA 6020B	Silver	0.069J	ug/L	0.50	08/19/16 14:21	B	
EPA 8260B	Acetone	32.1	ug/L	20.0	08/12/16 09:50		
EPA 8260B	Benzene	2150	ug/L	25.0	08/14/16 17:17		
EPA 8260B	n-Butylbenzene	29.3	ug/L	1.0	08/12/16 09:50		
EPA 8260B	sec-Butylbenzene	16.2	ug/L	1.0	08/12/16 09:50		
EPA 8260B	Ethylbenzene	1660	ug/L	25.0	08/14/16 17:17		
EPA 8260B	Isopropylbenzene (Cumene)	81.1	ug/L	1.0	08/12/16 09:50		
EPA 8260B	p-Isopropyltoluene	8.0	ug/L	1.0	08/12/16 09:50		
EPA 8260B	4-Methyl-2-pentanone (MIBK)	2.6J	ug/L	5.0	08/12/16 09:50		
EPA 8260B	Methyl-tert-butyl ether	7.4	ug/L	1.0	08/12/16 09:50		
EPA 8260B	Naphthalene	470	ug/L	100	08/14/16 17:17		
EPA 8260B	n-Propylbenzene	238	ug/L	1.0	08/12/16 09:50		
EPA 8260B	Styrene	5.9	ug/L	1.0	08/12/16 09:50		
EPA 8260B	Toluene	1320	ug/L	25.0	08/14/16 17:17		
EPA 8260B	1,2,4-Trimethylbenzene	1310	ug/L	25.0	08/14/16 17:17		
EPA 8260B	1,3,5-Trimethylbenzene	480	ug/L	25.0	08/14/16 17:17		
EPA 8260B	Xylene (Total)	4340	ug/L	75.0	08/14/16 17:17		
SM 2510B	Specific Conductance	595	umhos/cm	10.0	08/16/16 15:05		
SM 4500-H+B	pH at 25 Degrees C	6.6	Std. Units	0.10	08/15/16 19:13	H6	
SM 4500-NO3 H	Nitrate as N	0.12	mg/L	0.058	08/24/16 09:13		
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.12J	mg/L	0.17	08/24/16 09:13		
10358621007	<b>1608TOWERMW21D</b>						
EPA 6020B	Arsenic	0.43J	ug/L	0.50	08/19/16 14:23		
EPA 6020B	Barium	299	ug/L	0.30	08/19/16 14:23		
EPA 6020B	Chromium	4.4	ug/L	0.50	08/19/16 14:23		
EPA 6020B	Iron	65700	ug/L	500	08/20/16 16:20	M1	
EPA 6020B	Lead	0.41	ug/L	0.10	08/19/16 14:23		
EPA 6020B	Manganese	1580	ug/L	5.0	08/20/16 16:20	M1	
EPA 6020B	Selenium	0.19J	ug/L	0.50	08/19/16 14:23		
EPA 6020B	Silver	0.013J	ug/L	0.50	08/19/16 14:23	B	
EPA 8260B	Acetone	2.2J	ug/L	20.0	08/17/16 01:09		
EPA 8260B	Benzene	45.9	ug/L	1.0	08/17/16 01:09		
EPA 8260B	n-Butylbenzene	1.8	ug/L	1.0	08/17/16 01:09		
EPA 8260B	sec-Butylbenzene	0.69J	ug/L	1.0	08/17/16 01:09		
EPA 8260B	Ethylbenzene	8.1	ug/L	1.0	08/17/16 01:09		
EPA 8260B	Isopropylbenzene (Cumene)	1.2	ug/L	1.0	08/17/16 01:09		
EPA 8260B	p-Isopropyltoluene	0.44J	ug/L	1.0	08/17/16 01:09		
EPA 8260B	Naphthalene	4.9	ug/L	4.0	08/17/16 01:09		

## REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab Sample ID	Client Sample ID						
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers	
<b>10358621007</b>	<b>1608TOWERMW21D</b>						
EPA 8260B	n-Propylbenzene	5.3	ug/L	1.0	08/17/16 01:09		
EPA 8260B	Toluene	7.3	ug/L	1.0	08/17/16 01:09		
EPA 8260B	1,2,4-Trimethylbenzene	30.6	ug/L	1.0	08/17/16 01:09		
EPA 8260B	1,3,5-Trimethylbenzene	8.2	ug/L	1.0	08/17/16 01:09		
EPA 8260B	Xylene (Total)	64.5	ug/L	3.0	08/17/16 01:09		
SM 2510B	Specific Conductance	2100	umhos/cm	10.0	08/16/16 15:05		
SM 4500-H+B	pH at 25 Degrees C	6.5	Std. Units	0.10	08/15/16 19:14	H6	
SM 4500-S2-D	Sulfide	0.014J	mg/L	0.10	08/16/16 13:34		
SM 4500-NO3 H	Nitrate as N	0.063	mg/L	0.058	08/24/16 09:14		
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.063J	mg/L	0.17	08/24/16 09:14		
ASTM D516	Sulfate	1.1J	mg/L	3.5	08/12/16 09:07		
<b>10358621009</b>	<b>1608TOWERIDWSS</b>						
EPA 6020B	Lead	2.7	mg/kg	0.11	08/19/16 11:55		
ASTM D2974	Percent Moisture	20.7	%	0.10	08/15/16 16:34		
EPA 8260B	Benzene	601	ug/kg	29.5	08/15/16 23:24		
EPA 8260B	Ethylbenzene	2930	ug/kg	31.5	08/15/16 23:24		
EPA 8260B	Toluene	4330	ug/kg	40.4	08/15/16 23:24		
EPA 8260B	Xylene (Total)	14500	ug/kg	126	08/15/16 23:24		
<b>10358621010</b>	<b>1608TOWERTB2</b>						
EPA 8260B	Acetone	2.2J	ug/L	20.0	08/12/16 09:03	B	
EPA 8260B	Toluene	0.17J	ug/L	1.0	08/12/16 09:03	B	
<b>10358621011</b>	<b>1608TOWEREQB</b>						
EPA 6020B	Barium	0.070J	ug/L	0.30	08/19/16 14:33	B	
EPA 6020B	Chromium	0.36J	ug/L	0.50	08/19/16 14:33		
EPA 6020B	Lead	0.076J	ug/L	0.10	08/19/16 14:33	B	
EPA 6020B	Manganese	0.21J	ug/L	0.50	08/19/16 14:33		
EPA 6020B	Silver	0.043J	ug/L	0.50	08/19/16 14:33	B	
EPA 8260B	Acetone	2.9J	ug/L	20.0	08/16/16 22:58		
EPA 8260B	Naphthalene	1.6J	ug/L	4.0	08/16/16 22:58		
EPA 8260B	Toluene	0.48J	ug/L	1.0	08/16/16 22:58		
SM 4500-H+B	pH at 25 Degrees C	5.7	Std. Units	0.10	08/15/16 19:19	H6	
SM 4500-NO3 H	Nitrate as N	0.042J	mg/L	0.058	08/24/16 09:18		

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 8011**  
**Description:** 8011 GCS EDB and DBCP  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### **General Information:**

9 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Sample Preparation:**

The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

QC Batch: 430673

S5: Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

- 1608TOWERMW16 (Lab ID: 10358621001)
- 4-Bromofluorobenzene (S)

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

Analyte Comments:

QC Batch: 430673

1M: Low surrogate recovery due to emulsion forming during the extraction process.

- 1608TOWERMW16 (Lab ID: 10358621001)
- 4-Bromofluorobenzene (S)

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 6020B**  
**Description:** 6020B MET ICPMS  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### General Information:

6 samples were analyzed for EPA 6020B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Sample Preparation:

The samples were prepared in accordance with EPA 3050 with any exceptions noted below.

The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 429937

B: Analyte was detected in the associated method blank.

- BLANK for HBN 429937 [MPRP/658 (Lab ID: 2339230)]
  - Barium
  - Lead
  - Silver

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 429937

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358621007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2342797)
  - Iron
  - Manganese
- MSD (Lab ID: 2342798)
  - Iron

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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**Method:** **EPA 6020B**

**Description:** 6020B MET ICPMS

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

### Additional Comments:

Analyte Comments:

QC Batch: 429937

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2342797)
  - Iron
  - Manganese
- MSD (Lab ID: 2342798)
  - Iron
  - Manganese

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 7470A**  
**Description:** 7470A Mercury  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### **General Information:**

5 samples were analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Sample Preparation:**

The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 8260B**  
**Description:** 8260B MSV UST  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### **General Information:**

2 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Sample Preparation:**

The samples were prepared in accordance with EPA 5035/5030B with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

### **Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### **Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 8260B**  
**Description:** 8260B VOC  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### General Information:

9 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

- 1608TOWERMW16 (Lab ID: 10358621001)
- 1608TOWERMW16D (Lab ID: 10358621002)
- 1608TOWERMW16E (Lab ID: 10358621004)
- 1608TOWERMW18D (Lab ID: 10358621003)
- 1608TOWERMW21 (Lab ID: 10358621005)
- 1608TOWERMW21M (Lab ID: 10358621006)
- 1608TOWERTB2 (Lab ID: 10358621010)

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: 430040

B: Analyte was detected in the associated method blank.

- BLANK for HBN 430040 [MSV/3659 (Lab ID: 2339727)]
  - Acetone

QC Batch: 430041

B: Analyte was detected in the associated method blank.

- BLANK for HBN 430041 [MSV/3659 (Lab ID: 2339729)]
  - Acetone
  - Toluene

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
 Pace Project No.: 10358621

---

**Method:** **EPA 8260B**  
**Description:** 8260B VOC  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

QC Batch: 430040

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2339728)
- Bromoform

QC Batch: 430041

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2339730)
- Bromoform

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 430040

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358621001

R1: RPD value was outside control limits.

- MSD (Lab ID: 2341622)
- Tetrahydrofuran

QC Batch: 430041

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10359186001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 2343936)
- 1,1,1,2-Tetrachloroethane
- 1,3-Dichlorobenzene
- 2,2-Dichloropropane
- Carbon tetrachloride
- Dibromochloromethane
- Dichlorodifluoromethane
- Tetrachloroethene
- Trichlorofluoromethane
- cis-1,3-Dichloropropene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2343936)
- 1,1,2-Trichlorotrifluoroethane
- 1,1-Dichloroethane
- 1,2,4-Trichlorobenzene
- n-Butylbenzene

QC Batch: 430893

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358621007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2343944)
- 1,1,1,2-Tetrachloroethane
- 1,1,2-Trichloroethane
- Bromochloromethane

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **EPA 8260B**  
**Description:** 8260B VOC  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

QC Batch: 430893

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358621007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Trichlorofluoromethane
- MSD (Lab ID: 2343945)
  - 1,1,1,2-Tetrachloroethane
  - 1,1,1-Trichloroethane
  - 1,1,2,2-Tetrachloroethane
  - 1,1,2-Trichloroethane
  - 1,1,2-Trichlorotrifluoroethane
  - 1,2,3-Trichloroproppane
  - 1,2,4-Trimethylbenzene
  - 1,2-Dibromoethane (EDB)
  - 1,2-Dichlorobenzene
  - 1,3-Dichloropropane
  - 2-Chlorotoluene
  - Benzene
  - Bromobenzene
  - Bromochloromethane
  - Bromodichloromethane
  - Bromomethane
  - Carbon tetrachloride
  - Chlorobenzene
  - Chloroethane
  - Chloroform
  - Chloromethane
  - Dibromomethane
  - Dichlorodifluoromethane
  - Dichlorofluoromethane
  - Hexachloro-1,3-butadiene
  - Tetrachloroethene
  - Trichloroethene
  - Trichlorofluoromethane
  - Vinyl chloride
  - cis-1,3-Dichloropropene
  - n-Butylbenzene
  - p-Isopropyltoluene
  - trans-1,2-Dichloroethene

R1: RPD value was outside control limits.

- MSD (Lab ID: 2343945)
  - Chloromethane

### Additional Comments:

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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**Method:** **SM 2510B**

**Description:** 2510B Specific Conductance

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

**General Information:**

5 samples were analyzed for SM 2510B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

**Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **SM 4500-H+B**  
**Description:** 4500H+ pH, Electrometric  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### General Information:

5 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- 1608TOWEREQB (Lab ID: 10358621011)
- 1608TOWERMW16E (Lab ID: 10358621004)
- 1608TOWERMW21 (Lab ID: 10358621005)
- 1608TOWERMW21D (Lab ID: 10358621007)
- 1608TOWERMW21M (Lab ID: 10358621006)

### Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

### Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

### Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

### Surrogates:

All surrogates were within QC limits with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

### Additional Comments:

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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**Method:** **SM 4500-S2-D**

**Description:** 4500S2D Sulfide Water

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

**General Information:**

5 samples were analyzed for SM 4500-S2-D. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

**Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

**Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

**Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

**Duplicate Sample:**

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

**Additional Comments:**

## REPORT OF LABORATORY ANALYSIS

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **SM 4500-S H**  
**Description:** 4500S2H Sulfide as H<sub>2</sub>S Calc  
**Client:** Bristol Environmental Remediation Services, LLC  
**Date:** August 29, 2016

### **General Information:**

5 samples were analyzed for SM 4500-S H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

### **Initial Calibrations (including MS Tune as applicable):**

All criteria were within method requirements with any exceptions noted below.

### **Continuing Calibration:**

All criteria were within method requirements with any exceptions noted below.

### **Internal Standards:**

All internal standards were within QC limits with any exceptions noted below.

### **Surrogates:**

All surrogates were within QC limits with any exceptions noted below.

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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**Method:** **SM 4500-NO3 H**

**Description:** SM4500NO3-H, NO<sub>2</sub> + NO<sub>3</sub> pres.

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

### General Information:

5 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

### Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 431923

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358583039,10358621007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2349008)
  - Nitrogen, NO<sub>2</sub> plus NO<sub>3</sub>
- MSD (Lab ID: 2349009)
  - Nitrogen, NO<sub>2</sub> plus NO<sub>3</sub>

### Additional Comments:

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**Method:** **ASTM D516**

**Description:** ASTM D516 Sulfate Water

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

**General Information:**

5 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

**Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

**Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

**Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

**Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 430263

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10358073002,10358621007

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 2340954)
- Sulfate

**Additional Comments:**

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## PROJECT NARRATIVE

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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**Method:** **SM 4500-NO2 B**

**Description:** SM4500NO2-B, Nitrite, unpres

**Client:** Bristol Environmental Remediation Services, LLC

**Date:** August 29, 2016

### **General Information:**

5 samples were analyzed for SM 4500-NO2 B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

### **Hold Time:**

The samples were analyzed within the method required hold times with any exceptions noted below.

H1: Analysis conducted outside the recognized method holding time.

- 1608TOWERMW16E (Lab ID: 10358621004)

### **Method Blank:**

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

### **Laboratory Control Spike:**

All laboratory control spike compounds were within QC limits with any exceptions noted below.

### **Matrix Spikes:**

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

### **Additional Comments:**

This data package has been reviewed for quality and completeness and is approved for release.

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW16      Lab ID: 10358621001      Collected: 08/08/16 10:55      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.0097	0.0016	1	08/15/16 15:31	08/18/16 02:52	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	22	%.	30-150		1	08/15/16 15:31	08/18/16 02:52	460-00-4	1M, S5
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	2.4J	ug/L	20.0	0.64	1		08/11/16 21:16	67-64-1	B
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/11/16 21:16	107-05-1	
Benzene	0.75J	ug/L	1.0	0.16	1		08/11/16 21:16	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/11/16 21:16	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/11/16 21:16	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/11/16 21:16	75-27-4	
Bromoform	<0.27	ug/L	10.0	0.27	1		08/11/16 21:16	75-25-2	L2
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/11/16 21:16	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/11/16 21:16	78-93-3	
n-Butylbenzene	<0.16	ug/L	1.0	0.16	1		08/11/16 21:16	104-51-8	
sec-Butylbenzene	<0.19	ug/L	1.0	0.19	1		08/11/16 21:16	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/11/16 21:16	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/11/16 21:16	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/11/16 21:16	108-90-7	
Chloroethane	<0.34	ug/L	4.0	0.34	1		08/11/16 21:16	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/11/16 21:16	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/11/16 21:16	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/11/16 21:16	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/11/16 21:16	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/11/16 21:16	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/11/16 21:16	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/11/16 21:16	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/11/16 21:16	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/11/16 21:16	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/11/16 21:16	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/11/16 21:16	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/11/16 21:16	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/11/16 21:16	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/11/16 21:16	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/11/16 21:16	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/11/16 21:16	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/11/16 21:16	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/11/16 21:16	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/11/16 21:16	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/11/16 21:16	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/11/16 21:16	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/11/16 21:16	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/11/16 21:16	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/11/16 21:16	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/11/16 21:16	60-29-7	
Ethylbenzene	<0.15	ug/L	1.0	0.15	1		08/11/16 21:16	100-41-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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Sample: 1608TOWERMW16      Lab ID: 10358621001      Collected: 08/08/16 10:55      Received: 08/10/16 12:23      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/11/16 21:16	87-68-3	
Isopropylbenzene (Cumene)	<0.25	ug/L	1.0	0.25	1		08/11/16 21:16	98-82-8	
p-Isopropyltoluene	<0.19	ug/L	1.0	0.19	1		08/11/16 21:16	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/11/16 21:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.43	ug/L	5.0	0.43	1		08/11/16 21:16	108-10-1	
Methyl-tert-butyl ether	<0.15	ug/L	1.0	0.15	1		08/11/16 21:16	1634-04-4	
Naphthalene	<0.20	ug/L	4.0	0.20	1		08/11/16 21:16	91-20-3	
n-Propylbenzene	<0.23	ug/L	1.0	0.23	1		08/11/16 21:16	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/11/16 21:16	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/11/16 21:16	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/11/16 21:16	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/11/16 21:16	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/11/16 21:16	109-99-9	R1
Toluene	<0.14	ug/L	1.0	0.14	1		08/11/16 21:16	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/11/16 21:16	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/11/16 21:16	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/11/16 21:16	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/11/16 21:16	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/11/16 21:16	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/11/16 21:16	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/11/16 21:16	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/11/16 21:16	76-13-1	
1,2,4-Trimethylbenzene	<0.18	ug/L	1.0	0.18	1		08/11/16 21:16	95-63-6	
1,3,5-Trimethylbenzene	<0.27	ug/L	1.0	0.27	1		08/11/16 21:16	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/11/16 21:16	75-01-4	
Xylene (Total)	<0.32	ug/L	3.0	0.32	1		08/11/16 21:16	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	106	%.	75-125		1		08/11/16 21:16	17060-07-0	
Toluene-d8 (S)	105	%.	75-125		1		08/11/16 21:16	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/11/16 21:16	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW16D      Lab ID: 10358621002      Collected: 08/08/16 13:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.0098	0.0016	1	08/15/16 15:31	08/18/16 03:18	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	78	%.	30-150		1	08/15/16 15:31	08/18/16 03:18	460-00-4	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	<0.64	ug/L	20.0	0.64	1		08/12/16 01:53	67-64-1	
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/12/16 01:53	107-05-1	
Benzene	1240	ug/L	20.0	3.1	20		08/14/16 16:30	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/12/16 01:53	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/12/16 01:53	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/12/16 01:53	75-27-4	
Bromoform	<0.27	ug/L	10.0	0.27	1		08/12/16 01:53	75-25-2	L2
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/12/16 01:53	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/12/16 01:53	78-93-3	
n-Butylbenzene	3.3	ug/L	1.0	0.16	1		08/12/16 01:53	104-51-8	
sec-Butylbenzene	4.0	ug/L	1.0	0.19	1		08/12/16 01:53	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/12/16 01:53	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/12/16 01:53	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/12/16 01:53	108-90-7	
Chloroethane	<0.34	ug/L	4.0	0.34	1		08/12/16 01:53	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/12/16 01:53	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/12/16 01:53	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/12/16 01:53	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/12/16 01:53	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/12/16 01:53	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/12/16 01:53	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/12/16 01:53	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/12/16 01:53	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/12/16 01:53	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/12/16 01:53	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 01:53	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/12/16 01:53	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 01:53	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 01:53	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 01:53	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 01:53	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 01:53	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 01:53	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 01:53	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 01:53	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 01:53	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 01:53	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 01:53	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 01:53	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 01:53	60-29-7	
Ethylbenzene	61.8	ug/L	1.0	0.15	1		08/12/16 01:53	100-41-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW16D      Lab ID: 10358621002      Collected: 08/08/16 13:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 01:53	87-68-3	
Isopropylbenzene (Cumene)	26.0	ug/L	1.0	0.25	1		08/12/16 01:53	98-82-8	
p-Isopropyltoluene	1.6	ug/L	1.0	0.19	1		08/12/16 01:53	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 01:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	0.69J	ug/L	5.0	0.43	1		08/12/16 01:53	108-10-1	
Methyl-tert-butyl ether	1.9	ug/L	1.0	0.15	1		08/12/16 01:53	1634-04-4	
Naphthalene	109	ug/L	4.0	0.20	1		08/12/16 01:53	91-20-3	
n-Propylbenzene	66.9	ug/L	1.0	0.23	1		08/12/16 01:53	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/12/16 01:53	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 01:53	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 01:53	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 01:53	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 01:53	109-99-9	
Toluene	22.2	ug/L	1.0	0.14	1		08/12/16 01:53	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 01:53	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 01:53	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 01:53	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 01:53	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 01:53	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 01:53	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 01:53	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 01:53	76-13-1	
1,2,4-Trimethylbenzene	367	ug/L	20.0	3.6	20		08/14/16 16:30	95-63-6	
1,3,5-Trimethylbenzene	79.5	ug/L	1.0	0.27	1		08/12/16 01:53	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 01:53	75-01-4	
Xylene (Total)	1610	ug/L	60.0	6.3	20		08/14/16 16:30	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	100	%.	75-125		1		08/12/16 01:53	17060-07-0	
Toluene-d8 (S)	106	%.	75-125		1		08/12/16 01:53	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		08/12/16 01:53	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW18D      Lab ID: 10358621003      Collected: 08/08/16 13:30      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.010	0.0016	1	08/15/16 15:31	08/18/16 03:44	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	80	%.	30-150		1	08/15/16 15:31	08/18/16 03:44	460-00-4	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	<0.64	ug/L	20.0	0.64	1		08/12/16 02:09	67-64-1	
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/12/16 02:09	107-05-1	
Benzene	1300	ug/L	20.0	3.1	20		08/15/16 21:59	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/12/16 02:09	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/12/16 02:09	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/12/16 02:09	75-27-4	
Bromoform	<0.27	ug/L	10.0	0.27	1		08/12/16 02:09	75-25-2	L2
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/12/16 02:09	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/12/16 02:09	78-93-3	
n-Butylbenzene	3.5	ug/L	1.0	0.16	1		08/12/16 02:09	104-51-8	
sec-Butylbenzene	4.3	ug/L	1.0	0.19	1		08/12/16 02:09	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/12/16 02:09	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/12/16 02:09	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/12/16 02:09	108-90-7	
Chloroethane	<0.34	ug/L	4.0	0.34	1		08/12/16 02:09	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/12/16 02:09	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/12/16 02:09	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/12/16 02:09	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/12/16 02:09	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/12/16 02:09	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/12/16 02:09	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/12/16 02:09	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/12/16 02:09	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/12/16 02:09	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/12/16 02:09	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 02:09	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/12/16 02:09	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 02:09	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 02:09	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 02:09	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 02:09	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 02:09	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 02:09	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 02:09	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 02:09	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 02:09	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 02:09	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 02:09	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 02:09	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 02:09	60-29-7	
Ethylbenzene	65.3	ug/L	1.0	0.15	1		08/12/16 02:09	100-41-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW18D      Lab ID: 10358621003      Collected: 08/08/16 13:30      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 02:09	87-68-3	
Isopropylbenzene (Cumene)	26.7	ug/L	1.0	0.25	1		08/12/16 02:09	98-82-8	
p-Isopropyltoluene	1.7	ug/L	1.0	0.19	1		08/12/16 02:09	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 02:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	0.72J	ug/L	5.0	0.43	1		08/12/16 02:09	108-10-1	
Methyl-tert-butyl ether	2.3	ug/L	1.0	0.15	1		08/12/16 02:09	1634-04-4	
Naphthalene	114	ug/L	4.0	0.20	1		08/12/16 02:09	91-20-3	
n-Propylbenzene	69.5	ug/L	1.0	0.23	1		08/12/16 02:09	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/12/16 02:09	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 02:09	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 02:09	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 02:09	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 02:09	109-99-9	
Toluene	23.0	ug/L	1.0	0.14	1		08/12/16 02:09	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 02:09	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 02:09	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 02:09	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 02:09	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 02:09	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 02:09	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 02:09	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 02:09	76-13-1	
1,2,4-Trimethylbenzene	336	ug/L	20.0	3.6	20		08/15/16 21:59	95-63-6	
1,3,5-Trimethylbenzene	84.3	ug/L	1.0	0.27	1		08/12/16 02:09	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 02:09	75-01-4	
Xylene (Total)	1410	ug/L	60.0	6.3	20		08/15/16 21:59	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		08/12/16 02:09	17060-07-0	
Toluene-d8 (S)	106	%.	75-125		1		08/12/16 02:09	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/12/16 02:09	460-00-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW16E Lab ID: 10358621004 Collected: 08/09/16 09:00 Received: 08/10/16 12:23 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.0098	0.0016	1	08/15/16 15:31	08/18/16 04:10	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	84	%.	30-150		1	08/15/16 15:31	08/18/16 04:10	460-00-4	
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	0.59	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:05	7440-38-2	
Barium	205	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:05	7440-39-3	
Cadmium	<0.013	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:05	7440-43-9	
Chromium	2.3	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:05	7440-47-3	
Iron	1460	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:05	7439-89-6	
Lead	0.29	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:05	7439-92-1	B
Manganese	1650	ug/L	5.0	1.3	10	08/18/16 16:36	08/20/16 16:13	7439-96-5	
Selenium	0.18J	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:05	7782-49-2	
Silver	<0.0092	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:05	7440-22-4	
<b>7470A Mercury</b>	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	<0.031	ug/L	0.10	0.031	1	08/25/16 13:15	08/25/16 15:16	7439-97-6	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	10J	ug/L	20.0	0.64	1		08/12/16 09:19	67-64-1	B
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/12/16 09:19	107-05-1	
Benzene	768	ug/L	20.0	3.1	20		08/14/16 16:46	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/12/16 09:19	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/12/16 09:19	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/12/16 09:19	75-27-4	
Bromoform	<0.27	ug/L	10.0	0.27	1		08/12/16 09:19	75-25-2	L2
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/12/16 09:19	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/12/16 09:19	78-93-3	
n-Butylbenzene	0.59J	ug/L	1.0	0.16	1		08/12/16 09:19	104-51-8	
sec-Butylbenzene	1.3	ug/L	1.0	0.19	1		08/12/16 09:19	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/12/16 09:19	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/12/16 09:19	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/12/16 09:19	108-90-7	
Chloroethane	<0.34	ug/L	4.0	0.34	1		08/12/16 09:19	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/12/16 09:19	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/12/16 09:19	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/12/16 09:19	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/12/16 09:19	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/12/16 09:19	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/12/16 09:19	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/12/16 09:19	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/12/16 09:19	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/12/16 09:19	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:19	541-73-1	
1,4-Dichlorobenzene	0.28J	ug/L	1.0	0.21	1		08/12/16 09:19	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/12/16 09:19	75-71-8	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW16E      Lab ID: 10358621004      Collected: 08/09/16 09:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:19	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:19	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 09:19	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:19	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:19	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 09:19	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 09:19	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 09:19	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 09:19	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 09:19	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:19	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:19	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 09:19	60-29-7	
Ethylbenzene	8.9	ug/L	1.0	0.15	1		08/12/16 09:19	100-41-4	
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 09:19	87-68-3	
Isopropylbenzene (Cumene)	9.9	ug/L	1.0	0.25	1		08/12/16 09:19	98-82-8	
p-Isopropyltoluene	0.52J	ug/L	1.0	0.19	1		08/12/16 09:19	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 09:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.43	ug/L	5.0	0.43	1		08/12/16 09:19	108-10-1	
Methyl-tert-butyl ether	10.0	ug/L	1.0	0.15	1		08/12/16 09:19	1634-04-4	
Naphthalene	28.2	ug/L	4.0	0.20	1		08/12/16 09:19	91-20-3	
n-Propylbenzene	18.4	ug/L	1.0	0.23	1		08/12/16 09:19	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/12/16 09:19	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:19	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 09:19	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 09:19	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 09:19	109-99-9	
Toluene	6.1	ug/L	1.0	0.14	1		08/12/16 09:19	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:19	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:19	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:19	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 09:19	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 09:19	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 09:19	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 09:19	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 09:19	76-13-1	
1,2,4-Trimethylbenzene	96.6	ug/L	1.0	0.18	1		08/12/16 09:19	95-63-6	
1,3,5-Trimethylbenzene	16.9	ug/L	1.0	0.27	1		08/12/16 09:19	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 09:19	75-01-4	
Xylene (Total)	506	ug/L	3.0	0.32	1		08/12/16 09:19	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		08/12/16 09:19	17060-07-0	
Toluene-d8 (S)	105	%.	75-125		1		08/12/16 09:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		08/12/16 09:19	460-00-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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Sample: 1608TOWERMW16E      Lab ID: 10358621004      Collected: 08/09/16 09:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	1570	umhos/cm	10.0	10.0	1		08/16/16 15:02		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	7.7	Std. Units	0.10	0.10	1		08/15/16 19:10		H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	0.024J	mg/L	0.10	0.011	1		08/16/16 13:29		
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<0.020	mg/L	0.10	0.020	1		08/16/16 16:40		AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	<0.018	mg/L	0.058	0.018	1		08/24/16 09:12	14797-55-8	
Nitrogen, NO2 plus NO3	<0.050	mg/L	0.17	0.050	1		08/24/16 09:12		
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	1.2J	mg/L	3.5	1.0	1		08/12/16 09:05	14808-79-8	
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	0.0044J	mg/L	0.012	0.0036	1		08/11/16 09:00	14797-65-0	H1

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21      Lab ID: 10358621005      Collected: 08/09/16 11:20      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<b>0.0072J</b>	ug/L	0.0098	0.0016	1	08/15/16 15:31	08/18/16 04:37	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	73	%.	30-150		1	08/15/16 15:31	08/18/16 04:37	460-00-4	
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	<b>2.3</b>	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:19	7440-38-2	
Barium	<b>95.9</b>	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:19	7440-39-3	
Cadmium	<b>0.078J</b>	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:19	7440-43-9	
Chromium	<b>8.5</b>	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:19	7440-47-3	
Iron	<b>19200</b>	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:19	7439-89-6	
Lead	<b>8.6</b>	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:19	7439-92-1	
Manganese	<b>6550</b>	ug/L	10.0	2.5	20	08/18/16 16:36	08/20/16 16:15	7439-96-5	
Selenium	<b>0.39J</b>	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:19	7782-49-2	
Silver	<b>0.042J</b>	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:19	7440-22-4	B
<b>7470A Mercury</b>	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	<b>&lt;0.031</b>	ug/L	0.10	0.031	1	08/25/16 13:15	08/25/16 15:18	7439-97-6	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	<b>37.3</b>	ug/L	20.0	0.64	1		08/12/16 09:34	67-64-1	
Allyl chloride	<b>&lt;0.25</b>	ug/L	4.0	0.25	1		08/12/16 09:34	107-05-1	
Benzene	<b>458</b>	ug/L	25.0	3.9	25		08/14/16 17:01	71-43-2	
Bromobenzene	<b>&lt;0.34</b>	ug/L	1.0	0.34	1		08/12/16 09:34	108-86-1	
Bromochloromethane	<b>&lt;0.19</b>	ug/L	1.0	0.19	1		08/12/16 09:34	74-97-5	
Bromodichloromethane	<b>&lt;0.24</b>	ug/L	1.0	0.24	1		08/12/16 09:34	75-27-4	
Bromoform	<b>&lt;0.27</b>	ug/L	10.0	0.27	1		08/12/16 09:34	75-25-2	L2
Bromomethane	<b>&lt;0.44</b>	ug/L	4.0	0.44	1		08/12/16 09:34	74-83-9	
2-Butanone (MEK)	<b>&lt;1.1</b>	ug/L	5.0	1.1	1		08/12/16 09:34	78-93-3	
n-Butylbenzene	<b>52.4</b>	ug/L	1.0	0.16	1		08/12/16 09:34	104-51-8	
sec-Butylbenzene	<b>21.6</b>	ug/L	1.0	0.19	1		08/12/16 09:34	135-98-8	
tert-Butylbenzene	<b>&lt;0.22</b>	ug/L	1.0	0.22	1		08/12/16 09:34	98-06-6	
Carbon tetrachloride	<b>&lt;0.20</b>	ug/L	4.0	0.20	1		08/12/16 09:34	56-23-5	
Chlorobenzene	<b>&lt;0.11</b>	ug/L	1.0	0.11	1		08/12/16 09:34	108-90-7	
Chloroethane	<b>&lt;0.34</b>	ug/L	4.0	0.34	1		08/12/16 09:34	75-00-3	
Chloroform	<b>&lt;0.21</b>	ug/L	1.0	0.21	1		08/12/16 09:34	67-66-3	
Chloromethane	<b>&lt;0.25</b>	ug/L	4.0	0.25	1		08/12/16 09:34	74-87-3	
2-Chlorotoluene	<b>&lt;0.30</b>	ug/L	1.0	0.30	1		08/12/16 09:34	95-49-8	
4-Chlorotoluene	<b>&lt;0.26</b>	ug/L	1.0	0.26	1		08/12/16 09:34	106-43-4	
1,2-Dibromo-3-chloropropane	<b>&lt;0.60</b>	ug/L	10.0	0.60	1		08/12/16 09:34	96-12-8	
Dibromochloromethane	<b>&lt;0.16</b>	ug/L	4.0	0.16	1		08/12/16 09:34	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.20</b>	ug/L	1.0	0.20	1		08/12/16 09:34	106-93-4	
Dibromomethane	<b>&lt;0.19</b>	ug/L	4.0	0.19	1		08/12/16 09:34	74-95-3	
1,2-Dichlorobenzene	<b>&lt;0.17</b>	ug/L	1.0	0.17	1		08/12/16 09:34	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.12</b>	ug/L	1.0	0.12	1		08/12/16 09:34	541-73-1	
1,4-Dichlorobenzene	<b>&lt;0.21</b>	ug/L	1.0	0.21	1		08/12/16 09:34	106-46-7	
Dichlorodifluoromethane	<b>&lt;0.23</b>	ug/L	1.0	0.23	1		08/12/16 09:34	75-71-8	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21      Lab ID: 10358621005      Collected: 08/09/16 11:20      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:34	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:34	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 09:34	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:34	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:34	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 09:34	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 09:34	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 09:34	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 09:34	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 09:34	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:34	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:34	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 09:34	60-29-7	
Ethylbenzene	1700	ug/L	25.0	3.8	25		08/14/16 17:01	100-41-4	
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 09:34	87-68-3	
Isopropylbenzene (Cumene)	111	ug/L	1.0	0.25	1		08/12/16 09:34	98-82-8	
p-Isopropyltoluene	15.9	ug/L	1.0	0.19	1		08/12/16 09:34	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 09:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	9.4	ug/L	5.0	0.43	1		08/12/16 09:34	108-10-1	
Methyl-tert-butyl ether	0.24J	ug/L	1.0	0.15	1		08/12/16 09:34	1634-04-4	
Naphthalene	703	ug/L	100	5.1	25		08/14/16 17:01	91-20-3	
n-Propylbenzene	268	ug/L	25.0	5.8	25		08/14/16 17:01	103-65-1	
Styrene	12.5	ug/L	1.0	0.29	1		08/12/16 09:34	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:34	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 09:34	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 09:34	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 09:34	109-99-9	
Toluene	3280	ug/L	25.0	3.6	25		08/14/16 17:01	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:34	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:34	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:34	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 09:34	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 09:34	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 09:34	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 09:34	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 09:34	76-13-1	
1,2,4-Trimethylbenzene	2920	ug/L	25.0	4.4	25		08/14/16 17:01	95-63-6	
1,3,5-Trimethylbenzene	744	ug/L	25.0	6.7	25		08/14/16 17:01	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 09:34	75-01-4	
Xylene (Total)	9060	ug/L	75.0	7.9	25		08/14/16 17:01	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	109	%.	75-125		1		08/12/16 09:34	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		08/12/16 09:34	2037-26-5	
4-Bromofluorobenzene (S)	95	%.	75-125		1		08/12/16 09:34	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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Sample: 1608TOWERMW21      Lab ID: 10358621005      Collected: 08/09/16 11:20      Received: 08/10/16 12:23      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	411	umhos/cm	10.0	10.0	1		08/16/16 15:04		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	6.7	Std. Units	0.10	0.10	1		08/15/16 19:12		H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	0.022J	mg/L	0.10	0.011	1		08/16/16 13:30		
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<0.020	mg/L	0.10	0.020	1		08/16/16 16:40		AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	0.047J	mg/L	0.058	0.018	1		08/24/16 09:12	14797-55-8	
Nitrogen, NO2 plus NO3	<0.050	mg/L	0.17	0.050	1		08/24/16 09:12		
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	1.5J	mg/L	3.5	1.0	1		08/12/16 09:05	14808-79-8	
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	<0.0036	mg/L	0.012	0.0036	1		08/11/16 09:00	14797-65-0	

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21M Lab ID: 10358621006 Collected: 08/09/16 13:00 Received: 08/10/16 12:23 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<b>0.011</b>	ug/L	0.0099	0.0016	1	08/15/16 15:31	08/18/16 05:03	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	52	%.	30-150		1	08/15/16 15:31	08/18/16 05:03	460-00-4	
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	<b>1.5</b>	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:21	7440-38-2	
Barium	<b>80.9</b>	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:21	7440-39-3	
Cadmium	<b>0.057J</b>	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:21	7440-43-9	
Chromium	<b>9.5</b>	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:21	7440-47-3	
Iron	<b>8830</b>	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:21	7439-89-6	
Lead	<b>2.8</b>	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:21	7439-92-1	
Manganese	<b>3170</b>	ug/L	10.0	2.5	20	08/18/16 16:36	08/20/16 16:18	7439-96-5	
Selenium	<b>0.43J</b>	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:21	7782-49-2	
Silver	<b>0.069J</b>	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:21	7440-22-4	B
<b>7470A Mercury</b>	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	<b>&lt;0.031</b>	ug/L	0.10	0.031	1	08/25/16 13:15	08/25/16 15:20	7439-97-6	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	<b>32.1</b>	ug/L	20.0	0.64	1		08/12/16 09:50	67-64-1	
Allyl chloride	<b>&lt;0.25</b>	ug/L	4.0	0.25	1		08/12/16 09:50	107-05-1	
Benzene	<b>2150</b>	ug/L	25.0	3.9	25		08/14/16 17:17	71-43-2	
Bromobenzene	<b>&lt;0.34</b>	ug/L	1.0	0.34	1		08/12/16 09:50	108-86-1	
Bromochloromethane	<b>&lt;0.19</b>	ug/L	1.0	0.19	1		08/12/16 09:50	74-97-5	
Bromodichloromethane	<b>&lt;0.24</b>	ug/L	1.0	0.24	1		08/12/16 09:50	75-27-4	
Bromoform	<b>&lt;0.27</b>	ug/L	10.0	0.27	1		08/12/16 09:50	75-25-2	L2
Bromomethane	<b>&lt;0.44</b>	ug/L	4.0	0.44	1		08/12/16 09:50	74-83-9	
2-Butanone (MEK)	<b>&lt;1.1</b>	ug/L	5.0	1.1	1		08/12/16 09:50	78-93-3	
n-Butylbenzene	<b>29.3</b>	ug/L	1.0	0.16	1		08/12/16 09:50	104-51-8	
sec-Butylbenzene	<b>16.2</b>	ug/L	1.0	0.19	1		08/12/16 09:50	135-98-8	
tert-Butylbenzene	<b>&lt;0.22</b>	ug/L	1.0	0.22	1		08/12/16 09:50	98-06-6	
Carbon tetrachloride	<b>&lt;0.20</b>	ug/L	4.0	0.20	1		08/12/16 09:50	56-23-5	
Chlorobenzene	<b>&lt;0.11</b>	ug/L	1.0	0.11	1		08/12/16 09:50	108-90-7	
Chloroethane	<b>&lt;0.34</b>	ug/L	4.0	0.34	1		08/12/16 09:50	75-00-3	
Chloroform	<b>&lt;0.21</b>	ug/L	1.0	0.21	1		08/12/16 09:50	67-66-3	
Chloromethane	<b>&lt;0.25</b>	ug/L	4.0	0.25	1		08/12/16 09:50	74-87-3	
2-Chlorotoluene	<b>&lt;0.30</b>	ug/L	1.0	0.30	1		08/12/16 09:50	95-49-8	
4-Chlorotoluene	<b>&lt;0.26</b>	ug/L	1.0	0.26	1		08/12/16 09:50	106-43-4	
1,2-Dibromo-3-chloropropane	<b>&lt;0.60</b>	ug/L	10.0	0.60	1		08/12/16 09:50	96-12-8	
Dibromochloromethane	<b>&lt;0.16</b>	ug/L	4.0	0.16	1		08/12/16 09:50	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;0.20</b>	ug/L	1.0	0.20	1		08/12/16 09:50	106-93-4	
Dibromomethane	<b>&lt;0.19</b>	ug/L	4.0	0.19	1		08/12/16 09:50	74-95-3	
1,2-Dichlorobenzene	<b>&lt;0.17</b>	ug/L	1.0	0.17	1		08/12/16 09:50	95-50-1	
1,3-Dichlorobenzene	<b>&lt;0.12</b>	ug/L	1.0	0.12	1		08/12/16 09:50	541-73-1	
1,4-Dichlorobenzene	<b>&lt;0.21</b>	ug/L	1.0	0.21	1		08/12/16 09:50	106-46-7	
Dichlorodifluoromethane	<b>&lt;0.23</b>	ug/L	1.0	0.23	1		08/12/16 09:50	75-71-8	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21M Lab ID: 10358621006 Collected: 08/09/16 13:00 Received: 08/10/16 12:23 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:50	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:50	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 09:50	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:50	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:50	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 09:50	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 09:50	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 09:50	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 09:50	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 09:50	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:50	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:50	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 09:50	60-29-7	
Ethylbenzene	1660	ug/L	25.0	3.8	25		08/14/16 17:17	100-41-4	
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 09:50	87-68-3	
Isopropylbenzene (Cumene)	81.1	ug/L	1.0	0.25	1		08/12/16 09:50	98-82-8	
p-Isopropyltoluene	8.0	ug/L	1.0	0.19	1		08/12/16 09:50	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 09:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	2.6J	ug/L	5.0	0.43	1		08/12/16 09:50	108-10-1	
Methyl-tert-butyl ether	7.4	ug/L	1.0	0.15	1		08/12/16 09:50	1634-04-4	
Naphthalene	470	ug/L	100	5.1	25		08/14/16 17:17	91-20-3	
n-Propylbenzene	238	ug/L	1.0	0.23	1		08/12/16 09:50	103-65-1	
Styrene	5.9	ug/L	1.0	0.29	1		08/12/16 09:50	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:50	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 09:50	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 09:50	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 09:50	109-99-9	
Toluene	1320	ug/L	25.0	3.6	25		08/14/16 17:17	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:50	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:50	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:50	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 09:50	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 09:50	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 09:50	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 09:50	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 09:50	76-13-1	
1,2,4-Trimethylbenzene	1310	ug/L	25.0	4.4	25		08/14/16 17:17	95-63-6	
1,3,5-Trimethylbenzene	480	ug/L	25.0	6.7	25		08/14/16 17:17	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 09:50	75-01-4	
Xylene (Total)	4340	ug/L	75.0	7.9	25		08/14/16 17:17	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		08/12/16 09:50	17060-07-0	
Toluene-d8 (S)	106	%.	75-125		1		08/12/16 09:50	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/12/16 09:50	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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Sample: 1608TOWERMW21M      Lab ID: 10358621006      Collected: 08/09/16 13:00      Received: 08/10/16 12:23      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	<b>595</b>	umhos/cm	10.0	10.0	1		08/16/16 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	<b>6.6</b>	Std. Units	0.10	0.10	1		08/15/16 19:13		H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	<b>&lt;0.011</b>	mg/L	0.10	0.011	1		08/16/16 13:33		
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<b>&lt;0.020</b>	mg/L	0.10	0.020	1		08/16/16 16:40		AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	<b>0.12</b>	mg/L	0.058	0.018	1		08/24/16 09:13	14797-55-8	
Nitrogen, NO2 plus NO3	<b>0.12J</b>	mg/L	0.17	0.050	1		08/24/16 09:13		
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	<b>&lt;1.0</b>	mg/L	3.5	1.0	1		08/12/16 09:05	14808-79-8	
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	<b>&lt;0.0036</b>	mg/L	0.012	0.0036	1		08/11/16 09:00	14797-65-0	

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21D Lab ID: 10358621007 Collected: 08/09/16 14:50 Received: 08/10/16 12:23 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.0099	0.0016	1	08/15/16 15:31	08/18/16 00:42	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	34	%.	30-150		1	08/15/16 15:31	08/18/16 00:42	460-00-4	
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	0.43J	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:23	7440-38-2	
Barium	299	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:23	7440-39-3	
Cadmium	<0.013	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:23	7440-43-9	
Chromium	4.4	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:23	7440-47-3	
Iron	65700	ug/L	500	185	10	08/18/16 16:36	08/20/16 16:20	7439-89-6	M1
Lead	0.41	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:23	7439-92-1	
Manganese	1580	ug/L	5.0	1.3	10	08/18/16 16:36	08/20/16 16:20	7439-96-5	M1
Selenium	0.19J	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:23	7782-49-2	
Silver	0.013J	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:23	7440-22-4	B
<b>7470A Mercury</b>	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	<0.031	ug/L	0.10	0.031	1	08/25/16 13:15	08/25/16 15:22	7439-97-6	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	2.2J	ug/L	20.0	2.0	1		08/17/16 01:09	67-64-1	
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/17/16 01:09	107-05-1	
Benzene	45.9	ug/L	1.0	0.16	1		08/17/16 01:09	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/17/16 01:09	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/17/16 01:09	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/17/16 01:09	75-27-4	
Bromoform	<0.27	ug/L	4.0	0.27	1		08/17/16 01:09	75-25-2	
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/17/16 01:09	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/17/16 01:09	78-93-3	
n-Butylbenzene	1.8	ug/L	1.0	0.16	1		08/17/16 01:09	104-51-8	
sec-Butylbenzene	0.69J	ug/L	1.0	0.19	1		08/17/16 01:09	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/17/16 01:09	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/17/16 01:09	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/17/16 01:09	108-90-7	
Chloroethane	<0.34	ug/L	1.0	0.34	1		08/17/16 01:09	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/17/16 01:09	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/17/16 01:09	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/17/16 01:09	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/17/16 01:09	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/17/16 01:09	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/17/16 01:09	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/17/16 01:09	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/17/16 01:09	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/17/16 01:09	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/17/16 01:09	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/17/16 01:09	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/17/16 01:09	75-71-8	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERMW21D Lab ID: 10358621007 Collected: 08/09/16 14:50 Received: 08/10/16 12:23 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
1,1-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/17/16 01:09	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/17/16 01:09	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/17/16 01:09	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/17/16 01:09	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/17/16 01:09	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/17/16 01:09	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/17/16 01:09	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/17/16 01:09	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/17/16 01:09	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/17/16 01:09	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/17/16 01:09	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/17/16 01:09	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/17/16 01:09	60-29-7	
Ethylbenzene	8.1	ug/L	1.0	0.15	1		08/17/16 01:09	100-41-4	
Hexachloro-1,3-butadiene	<0.18	ug/L	1.0	0.18	1		08/17/16 01:09	87-68-3	
Isopropylbenzene (Cumene)	1.2	ug/L	1.0	0.25	1		08/17/16 01:09	98-82-8	
p-Isopropyltoluene	0.44J	ug/L	1.0	0.19	1		08/17/16 01:09	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/17/16 01:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.43	ug/L	5.0	0.43	1		08/17/16 01:09	108-10-1	
Methyl-tert-butyl ether	<0.15	ug/L	1.0	0.15	1		08/17/16 01:09	1634-04-4	
Naphthalene	4.9	ug/L	4.0	0.20	1		08/17/16 01:09	91-20-3	
n-Propylbenzene	5.3	ug/L	1.0	0.23	1		08/17/16 01:09	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/17/16 01:09	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/17/16 01:09	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/17/16 01:09	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/17/16 01:09	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/17/16 01:09	109-99-9	
Toluene	7.3	ug/L	1.0	0.14	1		08/17/16 01:09	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/17/16 01:09	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/17/16 01:09	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/17/16 01:09	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/17/16 01:09	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/17/16 01:09	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/17/16 01:09	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/17/16 01:09	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/17/16 01:09	76-13-1	
1,2,4-Trimethylbenzene	30.6	ug/L	1.0	0.18	1		08/17/16 01:09	95-63-6	
1,3,5-Trimethylbenzene	8.2	ug/L	1.0	0.27	1		08/17/16 01:09	108-67-8	
Vinyl chloride	<0.15	ug/L	1.0	0.15	1		08/17/16 01:09	75-01-4	
Xylene (Total)	64.5	ug/L	3.0	0.32	1		08/17/16 01:09	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	96	%.	75-125		1		08/17/16 01:09	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1		08/17/16 01:09	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		08/17/16 01:09	460-00-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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Sample: 1608TOWERMW21D      Lab ID: 10358621007      Collected: 08/09/16 14:50      Received: 08/10/16 12:23      Matrix: Water

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	<b>2100</b>	umhos/cm	10.0	10.0	1		08/16/16 15:05		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	<b>6.5</b>	Std. Units	0.10	0.10	1		08/15/16 19:14		H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	<b>0.014J</b>	mg/L	0.10	0.011	1		08/16/16 13:34		
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<b>&lt;0.020</b>	mg/L	0.10	0.020	1		08/16/16 16:40		AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	<b>0.063</b>	mg/L	0.058	0.018	1		08/24/16 09:14	14797-55-8	
Nitrogen, NO2 plus NO3	<b>0.063J</b>	mg/L	0.17	0.050	1		08/24/16 09:14		
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	<b>1.1J</b>	mg/L	3.5	1.0	1		08/12/16 09:07	14808-79-8	
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	<b>&lt;0.0036</b>	mg/L	0.012	0.0036	1		08/11/16 09:00	14797-65-0	

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERTB1      Lab ID: 10358621008      Collected: 08/05/16 08:00      Received: 08/10/16 12:23      Matrix: Solid

**Results reported on a "wet-weight" basis**

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B MSV UST</b>	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Benzene	<4.3	ug/kg	23.3	4.3	1	08/15/16 12:41	08/15/16 20:30	71-43-2	
Ethylbenzene	<8.2	ug/kg	24.9	8.2	1	08/15/16 12:41	08/15/16 20:30	100-41-4	
Toluene	<8.5	ug/kg	31.9	8.5	1	08/15/16 12:41	08/15/16 20:30	108-88-3	
Xylene (Total)	<22.0	ug/kg	99.6	22.0	1	08/15/16 12:41	08/15/16 20:30	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	100	%.	75-129		1	08/15/16 12:41	08/15/16 20:30	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1	08/15/16 12:41	08/15/16 20:30	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1	08/15/16 12:41	08/15/16 20:30	460-00-4	

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERIDWSS Lab ID: 10358621009 Collected: 08/05/16 14:30 Received: 08/10/16 12:23 Matrix: Solid

**Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.**

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3050								
Lead	<b>2.7</b>	mg/kg	0.11	0.020	20	08/17/16 10:01	08/19/16 11:55	7439-92-1	
<b>Dry Weight</b>	Analytical Method: ASTM D2974								
Percent Moisture	<b>20.7</b>	%	0.10	0.10	1		08/15/16 16:34		
<b>8260B MSV UST</b>	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Benzene	<b>601</b>	ug/kg	29.5	5.5	1	08/15/16 12:41	08/15/16 23:24	71-43-2	
Ethylbenzene	<b>2930</b>	ug/kg	31.5	10.4	1	08/15/16 12:41	08/15/16 23:24	100-41-4	
Toluene	<b>4330</b>	ug/kg	40.4	10.8	1	08/15/16 12:41	08/15/16 23:24	108-88-3	
Xylene (Total)	<b>14500</b>	ug/kg	126	27.8	1	08/15/16 12:41	08/15/16 23:24	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	101	%.	75-129		1	08/15/16 12:41	08/15/16 23:24	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1	08/15/16 12:41	08/15/16 23:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1	08/15/16 12:41	08/15/16 23:24	460-00-4	

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERTB2      Lab ID: 10358621010      Collected: 08/08/16 08:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP Surrogates</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.010	0.0016	1	08/15/16 15:31	08/18/16 05:29	106-93-4	
4-Bromofluorobenzene (S)	74	%.	30-150		1	08/15/16 15:31	08/18/16 05:29	460-00-4	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	2.2J	ug/L	20.0	0.64	1		08/12/16 09:03	67-64-1	B
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/12/16 09:03	107-05-1	
Benzene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:03	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/12/16 09:03	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/12/16 09:03	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/12/16 09:03	75-27-4	
Bromoform	<0.27	ug/L	10.0	0.27	1		08/12/16 09:03	75-25-2	L2
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/12/16 09:03	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/12/16 09:03	78-93-3	
n-Butylbenzene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:03	104-51-8	
sec-Butylbenzene	<0.19	ug/L	1.0	0.19	1		08/12/16 09:03	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/12/16 09:03	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/12/16 09:03	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/12/16 09:03	108-90-7	
Chloroethane	<0.34	ug/L	4.0	0.34	1		08/12/16 09:03	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/12/16 09:03	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/12/16 09:03	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/12/16 09:03	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/12/16 09:03	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/12/16 09:03	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/12/16 09:03	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/12/16 09:03	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/12/16 09:03	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/12/16 09:03	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:03	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:03	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/12/16 09:03	75-71-8	
1,1-Dichloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:03	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:03	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/12/16 09:03	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/12/16 09:03	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/12/16 09:03	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/12/16 09:03	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/12/16 09:03	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/12/16 09:03	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/12/16 09:03	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/12/16 09:03	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:03	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/12/16 09:03	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/12/16 09:03	60-29-7	
Ethylbenzene	<0.15	ug/L	1.0	0.15	1		08/12/16 09:03	100-41-4	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWERTB2      Lab ID: 10358621010      Collected: 08/08/16 08:00      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Hexachloro-1,3-butadiene	<0.18	ug/L	4.0	0.18	1		08/12/16 09:03	87-68-3	
Isopropylbenzene (Cumene)	<0.25	ug/L	1.0	0.25	1		08/12/16 09:03	98-82-8	
p-Isopropyltoluene	<0.19	ug/L	1.0	0.19	1		08/12/16 09:03	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/12/16 09:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.43	ug/L	5.0	0.43	1		08/12/16 09:03	108-10-1	
Methyl-tert-butyl ether	<0.15	ug/L	1.0	0.15	1		08/12/16 09:03	1634-04-4	
Naphthalene	<0.20	ug/L	4.0	0.20	1		08/12/16 09:03	91-20-3	
n-Propylbenzene	<0.23	ug/L	1.0	0.23	1		08/12/16 09:03	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/12/16 09:03	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/12/16 09:03	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/12/16 09:03	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/12/16 09:03	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/12/16 09:03	109-99-9	
Toluene	0.17J	ug/L	1.0	0.14	1		08/12/16 09:03	108-88-3	B
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:03	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/12/16 09:03	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/12/16 09:03	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/12/16 09:03	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/12/16 09:03	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/12/16 09:03	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/12/16 09:03	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/12/16 09:03	76-13-1	
1,2,4-Trimethylbenzene	<0.18	ug/L	1.0	0.18	1		08/12/16 09:03	95-63-6	
1,3,5-Trimethylbenzene	<0.27	ug/L	1.0	0.27	1		08/12/16 09:03	108-67-8	
Vinyl chloride	<0.29	ug/L	0.40	0.29	1		08/12/16 09:03	75-01-4	
Xylene (Total)	<0.32	ug/L	3.0	0.32	1		08/12/16 09:03	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	109	%.	75-125		1		08/12/16 09:03	17060-07-0	
Toluene-d8 (S)	107	%.	75-125		1		08/12/16 09:03	2037-26-5	
4-Bromofluorobenzene (S)	105	%.	75-125		1		08/12/16 09:03	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWEREQB      Lab ID: 10358621011      Collected: 08/09/16 09:30      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8011 GCS EDB and DBCP</b>	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	<0.0016	ug/L	0.0098	0.0016	1	08/15/16 15:31	08/18/16 05:55	106-93-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	74	%.	30-150		1	08/15/16 15:31	08/18/16 05:55	460-00-4	
<b>6020B MET ICPMS</b>	Analytical Method: EPA 6020B Preparation Method: EPA 3020								
Arsenic	<0.091	ug/L	0.50	0.091	1	08/18/16 16:36	08/19/16 14:33	7440-38-2	
Barium	0.070J	ug/L	0.30	0.019	1	08/18/16 16:36	08/19/16 14:33	7440-39-3	B
Cadmium	<0.013	ug/L	0.080	0.013	1	08/18/16 16:36	08/19/16 14:33	7440-43-9	
Chromium	0.36J	ug/L	0.50	0.14	1	08/18/16 16:36	08/19/16 14:33	7440-47-3	
Iron	<18.5	ug/L	50.0	18.5	1	08/18/16 16:36	08/19/16 14:33	7439-89-6	
Lead	0.076J	ug/L	0.10	0.012	1	08/18/16 16:36	08/19/16 14:33	7439-92-1	B
Manganese	0.21J	ug/L	0.50	0.13	1	08/18/16 16:36	08/19/16 14:33	7439-96-5	
Selenium	<0.13	ug/L	0.50	0.13	1	08/18/16 16:36	08/20/16 16:27	7782-49-2	
Silver	0.043J	ug/L	0.50	0.0092	1	08/18/16 16:36	08/19/16 14:33	7440-22-4	B
<b>7470A Mercury</b>	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury	<0.031	ug/L	0.10	0.031	1	08/15/16 09:47	08/15/16 16:44	7439-97-6	
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
Acetone	2.9J	ug/L	20.0	2.0	1		08/16/16 22:58	67-64-1	
Allyl chloride	<0.25	ug/L	4.0	0.25	1		08/16/16 22:58	107-05-1	
Benzene	<0.16	ug/L	1.0	0.16	1		08/16/16 22:58	71-43-2	
Bromobenzene	<0.34	ug/L	1.0	0.34	1		08/16/16 22:58	108-86-1	
Bromochloromethane	<0.19	ug/L	1.0	0.19	1		08/16/16 22:58	74-97-5	
Bromodichloromethane	<0.24	ug/L	1.0	0.24	1		08/16/16 22:58	75-27-4	
Bromoform	<0.27	ug/L	4.0	0.27	1		08/16/16 22:58	75-25-2	
Bromomethane	<0.44	ug/L	4.0	0.44	1		08/16/16 22:58	74-83-9	
2-Butanone (MEK)	<1.1	ug/L	5.0	1.1	1		08/16/16 22:58	78-93-3	
n-Butylbenzene	<0.16	ug/L	1.0	0.16	1		08/16/16 22:58	104-51-8	
sec-Butylbenzene	<0.19	ug/L	1.0	0.19	1		08/16/16 22:58	135-98-8	
tert-Butylbenzene	<0.22	ug/L	1.0	0.22	1		08/16/16 22:58	98-06-6	
Carbon tetrachloride	<0.20	ug/L	4.0	0.20	1		08/16/16 22:58	56-23-5	
Chlorobenzene	<0.11	ug/L	1.0	0.11	1		08/16/16 22:58	108-90-7	
Chloroethane	<0.34	ug/L	1.0	0.34	1		08/16/16 22:58	75-00-3	
Chloroform	<0.21	ug/L	1.0	0.21	1		08/16/16 22:58	67-66-3	
Chloromethane	<0.25	ug/L	4.0	0.25	1		08/16/16 22:58	74-87-3	
2-Chlorotoluene	<0.30	ug/L	1.0	0.30	1		08/16/16 22:58	95-49-8	
4-Chlorotoluene	<0.26	ug/L	1.0	0.26	1		08/16/16 22:58	106-43-4	
1,2-Dibromo-3-chloropropane	<0.60	ug/L	10.0	0.60	1		08/16/16 22:58	96-12-8	
Dibromochloromethane	<0.16	ug/L	4.0	0.16	1		08/16/16 22:58	124-48-1	
1,2-Dibromoethane (EDB)	<0.20	ug/L	1.0	0.20	1		08/16/16 22:58	106-93-4	
Dibromomethane	<0.19	ug/L	4.0	0.19	1		08/16/16 22:58	74-95-3	
1,2-Dichlorobenzene	<0.17	ug/L	1.0	0.17	1		08/16/16 22:58	95-50-1	
1,3-Dichlorobenzene	<0.12	ug/L	1.0	0.12	1		08/16/16 22:58	541-73-1	
1,4-Dichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/16/16 22:58	106-46-7	
Dichlorodifluoromethane	<0.23	ug/L	1.0	0.23	1		08/16/16 22:58	75-71-8	

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWEREQB      Lab ID: 10358621011      Collected: 08/09/16 09:30      Received: 08/10/16 12:23      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260B VOC</b>	Analytical Method: EPA 8260B								
1,1-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/16/16 22:58	75-34-3	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		08/16/16 22:58	107-06-2	
1,1-Dichloroethene	<0.28	ug/L	1.0	0.28	1		08/16/16 22:58	75-35-4	
cis-1,2-Dichloroethene	<0.12	ug/L	1.0	0.12	1		08/16/16 22:58	156-59-2	
trans-1,2-Dichloroethene	<0.16	ug/L	1.0	0.16	1		08/16/16 22:58	156-60-5	
Dichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		08/16/16 22:58	75-43-4	
1,2-Dichloropropane	<0.22	ug/L	4.0	0.22	1		08/16/16 22:58	78-87-5	
1,3-Dichloropropane	<0.096	ug/L	1.0	0.096	1		08/16/16 22:58	142-28-9	
2,2-Dichloropropane	<0.13	ug/L	4.0	0.13	1		08/16/16 22:58	594-20-7	
1,1-Dichloropropene	<0.23	ug/L	1.0	0.23	1		08/16/16 22:58	563-58-6	
cis-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/16/16 22:58	10061-01-5	
trans-1,3-Dichloropropene	<0.15	ug/L	4.0	0.15	1		08/16/16 22:58	10061-02-6	
Diethyl ether (Ethyl ether)	<0.19	ug/L	4.0	0.19	1		08/16/16 22:58	60-29-7	
Ethylbenzene	<0.15	ug/L	1.0	0.15	1		08/16/16 22:58	100-41-4	
Hexachloro-1,3-butadiene	<0.18	ug/L	1.0	0.18	1		08/16/16 22:58	87-68-3	
Isopropylbenzene (Cumene)	<0.25	ug/L	1.0	0.25	1		08/16/16 22:58	98-82-8	
p-Isopropyltoluene	<0.19	ug/L	1.0	0.19	1		08/16/16 22:58	99-87-6	
Methylene Chloride	<0.29	ug/L	4.0	0.29	1		08/16/16 22:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	<0.43	ug/L	5.0	0.43	1		08/16/16 22:58	108-10-1	
Methyl-tert-butyl ether	<0.15	ug/L	1.0	0.15	1		08/16/16 22:58	1634-04-4	
Naphthalene	1.6J	ug/L	4.0	0.20	1		08/16/16 22:58	91-20-3	
n-Propylbenzene	<0.23	ug/L	1.0	0.23	1		08/16/16 22:58	103-65-1	
Styrene	<0.29	ug/L	1.0	0.29	1		08/16/16 22:58	100-42-5	
1,1,1,2-Tetrachloroethane	<0.17	ug/L	4.0	0.17	1		08/16/16 22:58	630-20-6	
1,1,2,2-Tetrachloroethane	<0.22	ug/L	1.0	0.22	1		08/16/16 22:58	79-34-5	
Tetrachloroethene	<0.25	ug/L	1.0	0.25	1		08/16/16 22:58	127-18-4	
Tetrahydrofuran	<1.5	ug/L	10.0	1.5	1		08/16/16 22:58	109-99-9	
Toluene	0.48J	ug/L	1.0	0.14	1		08/16/16 22:58	108-88-3	
1,2,3-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/16/16 22:58	87-61-6	
1,2,4-Trichlorobenzene	<0.21	ug/L	1.0	0.21	1		08/16/16 22:58	120-82-1	
1,1,1-Trichloroethane	<0.17	ug/L	1.0	0.17	1		08/16/16 22:58	71-55-6	
1,1,2-Trichloroethane	<0.15	ug/L	1.0	0.15	1		08/16/16 22:58	79-00-5	
Trichloroethene	<0.20	ug/L	0.40	0.20	1		08/16/16 22:58	79-01-6	
Trichlorofluoromethane	<0.33	ug/L	1.0	0.33	1		08/16/16 22:58	75-69-4	
1,2,3-Trichloropropane	<0.28	ug/L	4.0	0.28	1		08/16/16 22:58	96-18-4	
1,1,2-Trichlorotrifluoroethane	<0.32	ug/L	1.0	0.32	1		08/16/16 22:58	76-13-1	
1,2,4-Trimethylbenzene	<0.18	ug/L	1.0	0.18	1		08/16/16 22:58	95-63-6	
1,3,5-Trimethylbenzene	<0.27	ug/L	1.0	0.27	1		08/16/16 22:58	108-67-8	
Vinyl chloride	<0.15	ug/L	1.0	0.15	1		08/16/16 22:58	75-01-4	
Xylene (Total)	<0.32	ug/L	3.0	0.32	1		08/16/16 22:58	1330-20-7	
<b>Surrogates</b>									
1,2-Dichloroethane-d4 (S)	96	%.	75-125		1		08/16/16 22:58	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1		08/16/16 22:58	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1		08/16/16 22:58	460-00-4	

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## ANALYTICAL RESULTS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Sample: 1608TOWEREQB	Lab ID: 10358621011	Collected: 08/09/16 09:30	Received: 08/10/16 12:23	Matrix: Water					
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>2510B Specific Conductance</b>	Analytical Method: SM 2510B								
Specific Conductance	<10.0	umhos/cm	10.0	10.0	1		08/16/16 15:06		
<b>4500H+ pH, Electrometric</b>	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	5.7	Std. Units	0.10	0.10	1		08/15/16 19:19		H6
<b>4500S2D Sulfide Water</b>	Analytical Method: SM 4500-S2-D								
Sulfide	<0.011	mg/L	0.10	0.011	1		08/16/16 13:37		
<b>4500S2H Sulfide as H2S Calc</b>	Analytical Method: SM 4500-S H								
Sulfide as H2S (calc)	<0.020	mg/L	0.10	0.020	1		08/16/16 16:40		AL
<b>SM4500NO3-H, NO2 + NO3 pres.</b>	Analytical Method: SM 4500-NO3 H								
Nitrate as N	0.042J	mg/L	0.058	0.018	1		08/24/16 09:18	14797-55-8	
Nitrogen, NO2 plus NO3	<0.050	mg/L	0.17	0.050	1		08/24/16 09:18		
<b>ASTM D516 Sulfate Water</b>	Analytical Method: ASTM D516								
Sulfate	<1.0	mg/L	3.5	1.0	1		08/12/16 09:07	14808-79-8	
<b>SM4500NO2-B, Nitrite, unpres</b>	Analytical Method: SM 4500-NO2 B								
Nitrite as N	<0.0036	mg/L	0.012	0.0036	1		08/11/16 09:00	14797-65-0	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430004	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470A Mercury Water
Associated Lab Samples: 10358621011			

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METHOD BLANK: 2339606 Matrix: Water

Associated Lab Samples: 10358621011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.031	0.10	08/15/16 16:11	

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LABORATORY CONTROL SAMPLE: 2339607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	80-120	

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MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2339608 2339609

Parameter	Units	10358540002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
Mercury	ug/L	0.54	5	5	5.3	5.4	96	98	80-120	2	20	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	432384	Analysis Method:	EPA 7470A
QC Batch Method:	EPA 7470A	Analysis Description:	7470A Mercury Water
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007		

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METHOD BLANK: 2351398                          Matrix: Water

Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	<0.031	0.10	08/25/16 15:12	

LABORATORY CONTROL SAMPLE: 2351399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2351400                          2351401

Parameter	Units	10358621007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Mercury	ug/L	<0.031	5	5	5.1	5.2	101	105	80-120	3	20	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430644	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3050	Analysis Description:	6020B Solids UPD5
Associated Lab Samples:	10358621009		

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METHOD BLANK:	2342888	Matrix:	Solid
Associated Lab Samples:	10358621009		

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Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	mg/kg	0.018J	0.092	08/19/16 11:50	

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LABORATORY CONTROL SAMPLE: 2342889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/kg	49	52.4	107	80-120	

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MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2342890                    2342891

Parameter	Units	10358621009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Lead	mg/kg	2.7	53.8	54.9	58.4	61.5	103	107	75-125	5	20	

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## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	429937	Analysis Method:	EPA 6020B
QC Batch Method:	EPA 3020	Analysis Description:	6020B Water UPD5
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

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METHOD BLANK: 2339230 Matrix: Water

Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007, 10358621011

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Arsenic	ug/L	<0.091	0.50	08/19/16 14:16	
Barium	ug/L	0.030J	0.30	08/19/16 14:16	
Cadmium	ug/L	<0.013	0.080	08/19/16 14:16	
Chromium	ug/L	<0.14	0.50	08/19/16 14:16	
Iron	ug/L	<18.5	50.0	08/19/16 14:16	
Lead	ug/L	0.036J	0.10	08/19/16 14:16	
Manganese	ug/L	<0.13	0.50	08/19/16 14:16	
Selenium	ug/L	<0.13	0.50	08/20/16 16:08	
Silver	ug/L	0.082J	0.50	08/19/16 14:16	

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LABORATORY CONTROL SAMPLE: 2339231

Parameter	Units	Spike	LCS	LCS	% Rec	Limits	Qualifiers
		Conc.	Result	% Rec			
Arsenic	ug/L	100	89.0	89	80-120		
Barium	ug/L	100	102	102	80-120		
Cadmium	ug/L	100	101	101	80-120		
Chromium	ug/L	100	103	103	80-120		
Iron	ug/L	2000	1850	92	80-120		
Lead	ug/L	100	103	103	80-120		
Manganese	ug/L	100	100	100	80-120		
Selenium	ug/L	100	92.5	92	80-120		
Silver	ug/L	50	47.2	94	80-120		

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MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2342797 2342798

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	Max	RPD	RPD	Qual
		10358621007	Spike										
Arsenic	ug/L	0.43J	100	100	92.4	86.1	92	86	75-125	7	20		
Barium	ug/L	299	100	100	399	401	100	102	75-125	1	20		
Cadmium	ug/L	<0.013	100	100	101	101	101	101	75-125	1	20		
Chromium	ug/L	4.4	100	100	105	105	101	101	75-125	0	20		
Iron	ug/L	65700	2000	2000	60200	56400	-274	-466	75-125	7	20	E,M1	
Lead	ug/L	0.41	100	100	100	100	100	100	75-125	0	20		
Manganese	ug/L	1580	100	100	1660	1680	73	100	75-125	2	20	E,M1	
Selenium	ug/L	0.19J	100	100	94.1	83.7	94	83	75-125	12	20		
Silver	ug/L	0.013J	50	50	45.6	41.9	91	84	75-125	9	20		

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow

Pace Project No.: 10358621

QC Batch:	430659	Analysis Method:	ASTM D2974
QC Batch Method:	ASTM D2974	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples:	10358621009		

SAMPLE DUPLICATE: 2343005

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	12.2	12.6	3	30	

SAMPLE DUPLICATE: 2343065

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	20.7	21.1	2	30	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430540	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 5035/5030B	Analysis Description:	8260B MSV UST
Associated Lab Samples: 10358621008, 10358621009			

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METHOD BLANK: 2342270                    Matrix: Solid

Associated Lab Samples: 10358621008, 10358621009

Parameter	Units	Blank	Reporting		Qualifiers
		Result	Limit	Analyzed	
Benzene	ug/kg	<4.3	23.3	08/15/16 19:55	
Ethylbenzene	ug/kg	<8.2	24.9	08/15/16 19:55	
Toluene	ug/kg	<8.5	31.9	08/15/16 19:55	
Xylene (Total)	ug/kg	<22.0	99.6	08/15/16 19:55	
1,2-Dichloroethane-d4 (S)	%.	104	75-129	08/15/16 19:55	
4-Bromofluorobenzene (S)	%.	100	75-125	08/15/16 19:55	
Toluene-d8 (S)	%.	101	75-125	08/15/16 19:55	

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LABORATORY CONTROL SAMPLE & LCSD: 2342271                    2342272

Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec	Limits			
Benzene	ug/kg	1000	927	979	93	98	64-125	5	20	
Ethylbenzene	ug/kg	1000	1040	1050	104	105	70-129	1	20	
Toluene	ug/kg	1000	966	1030	97	103	69-125	6	20	
Xylene (Total)	ug/kg	3000	2960	3100	99	103	73-128	5	20	
1,2-Dichloroethane-d4 (S)	%.				101	104	75-129			
4-Bromofluorobenzene (S)	%.				102	100	75-125			
Toluene-d8 (S)	%.				102	101	75-125			

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MATRIX SPIKE SAMPLE: 2342799

Parameter	Units	10358819007		Spike	MS	MS	% Rec	RPD	Max RPD	Qualifiers
		Result	Result	Conc.	Result	% Rec	Limits			
Benzene	ug/kg	<5.3	1260		1080		85		41-134	
Ethylbenzene	ug/kg	<10.1	1260		1200		95		56-141	
Toluene	ug/kg	12.6J	1260		1160		91		55-134	
Xylene (Total)	ug/kg	<27.1	3790		3490		92		56-137	
1,2-Dichloroethane-d4 (S)	%.						98		75-129	
4-Bromofluorobenzene (S)	%.						100		75-125	
Toluene-d8 (S)	%.						103		75-125	

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SAMPLE DUPLICATE: 2342800

Parameter	Units	10358819008		Dup	RPD	Max RPD	Qualifiers
		Result	Result	Result			
Benzene	ug/kg	<5.5		<5.3		30	
Ethylbenzene	ug/kg	<10.4		<10.1		30	
Toluene	ug/kg	11.1J		<10.5		30	
Xylene (Total)	ug/kg	<27.9		<27.0		30	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
 Pace Project No.: 10358621

SAMPLE DUPLICATE: 2342800

Parameter	Units	10358819008	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	102	99	6		
4-Bromofluorobenzene (S)	%.	104	104	3		
Toluene-d8 (S)	%.	101	104	0		

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430040	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV 465 W
Associated Lab Samples:	10358621001, 10358621002, 10358621003		

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METHOD BLANK: 2339727 Matrix: Water

Associated Lab Samples: 10358621001, 10358621002, 10358621003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.17	4.0	08/11/16 20:30	
1,1,1-Trichloroethane	ug/L	<0.17	1.0	08/11/16 20:30	
1,1,2,2-Tetrachloroethane	ug/L	<0.22	1.0	08/11/16 20:30	
1,1,2-Trichloroethane	ug/L	<0.15	1.0	08/11/16 20:30	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.32	1.0	08/11/16 20:30	
1,1-Dichloroethane	ug/L	<0.17	4.0	08/11/16 20:30	
1,1-Dichloroethene	ug/L	<0.28	1.0	08/11/16 20:30	
1,1-Dichloropropene	ug/L	<0.23	1.0	08/11/16 20:30	
1,2,3-Trichlorobenzene	ug/L	<0.21	1.0	08/11/16 20:30	
1,2,3-Trichloropropane	ug/L	<0.28	4.0	08/11/16 20:30	
1,2,4-Trichlorobenzene	ug/L	<0.21	1.0	08/11/16 20:30	
1,2,4-Trimethylbenzene	ug/L	<0.18	1.0	08/11/16 20:30	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	10.0	08/11/16 20:30	
1,2-Dibromoethane (EDB)	ug/L	<0.20	1.0	08/11/16 20:30	
1,2-Dichlorobenzene	ug/L	<0.17	1.0	08/11/16 20:30	
1,2-Dichloroethane	ug/L	<0.17	1.0	08/11/16 20:30	
1,2-Dichloropropane	ug/L	<0.22	4.0	08/11/16 20:30	
1,3,5-Trimethylbenzene	ug/L	<0.27	1.0	08/11/16 20:30	
1,3-Dichlorobenzene	ug/L	<0.12	1.0	08/11/16 20:30	
1,3-Dichloropropane	ug/L	<0.096	1.0	08/11/16 20:30	
1,4-Dichlorobenzene	ug/L	<0.21	1.0	08/11/16 20:30	
2,2-Dichloropropane	ug/L	<0.13	4.0	08/11/16 20:30	
2-Butanone (MEK)	ug/L	<1.1	5.0	08/11/16 20:30	
2-Chlorotoluene	ug/L	<0.30	1.0	08/11/16 20:30	
4-Chlorotoluene	ug/L	<0.26	1.0	08/11/16 20:30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.43	5.0	08/11/16 20:30	
Acetone	ug/L	2.9J	20.0	08/11/16 20:30	
Allyl chloride	ug/L	<0.25	4.0	08/11/16 20:30	
Benzene	ug/L	<0.16	1.0	08/11/16 20:30	
Bromobenzene	ug/L	<0.34	1.0	08/11/16 20:30	
Bromochloromethane	ug/L	<0.19	1.0	08/11/16 20:30	
Bromodichloromethane	ug/L	<0.24	1.0	08/11/16 20:30	
Bromoform	ug/L	<0.27	10.0	08/11/16 20:30	
Bromomethane	ug/L	<0.44	4.0	08/11/16 20:30	
Carbon tetrachloride	ug/L	<0.20	4.0	08/11/16 20:30	
Chlorobenzene	ug/L	<0.11	1.0	08/11/16 20:30	
Chloroethane	ug/L	<0.34	4.0	08/11/16 20:30	
Chloroform	ug/L	<0.21	1.0	08/11/16 20:30	
Chloromethane	ug/L	<0.25	4.0	08/11/16 20:30	
cis-1,2-Dichloroethene	ug/L	<0.12	1.0	08/11/16 20:30	
cis-1,3-Dichloropropene	ug/L	<0.15	4.0	08/11/16 20:30	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

METHOD BLANK: 2339727                          Matrix: Water

Associated Lab Samples: 10358621001, 10358621002, 10358621003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.16	4.0	08/11/16 20:30	
Dibromomethane	ug/L	<0.19	4.0	08/11/16 20:30	
Dichlorodifluoromethane	ug/L	<0.23	1.0	08/11/16 20:30	
Dichlorofluoromethane	ug/L	<0.21	1.0	08/11/16 20:30	
Diethyl ether (Ethyl ether)	ug/L	<0.19	4.0	08/11/16 20:30	
Ethylbenzene	ug/L	<0.15	1.0	08/11/16 20:30	
Hexachloro-1,3-butadiene	ug/L	<0.18	4.0	08/11/16 20:30	
Isopropylbenzene (Cumene)	ug/L	<0.25	1.0	08/11/16 20:30	
Methyl-tert-butyl ether	ug/L	<0.15	1.0	08/11/16 20:30	
Methylene Chloride	ug/L	<0.29	4.0	08/11/16 20:30	
n-Butylbenzene	ug/L	<0.16	1.0	08/11/16 20:30	
n-Propylbenzene	ug/L	<0.23	1.0	08/11/16 20:30	
Naphthalene	ug/L	<0.20	4.0	08/11/16 20:30	
p-Isopropyltoluene	ug/L	<0.19	1.0	08/11/16 20:30	
sec-Butylbenzene	ug/L	<0.19	1.0	08/11/16 20:30	
Styrene	ug/L	<0.29	1.0	08/11/16 20:30	
tert-Butylbenzene	ug/L	<0.22	1.0	08/11/16 20:30	
Tetrachloroethene	ug/L	<0.25	1.0	08/11/16 20:30	
Tetrahydrofuran	ug/L	<1.5	10.0	08/11/16 20:30	
Toluene	ug/L	<0.14	1.0	08/11/16 20:30	
trans-1,2-Dichloroethene	ug/L	<0.16	1.0	08/11/16 20:30	
trans-1,3-Dichloropropene	ug/L	<0.15	4.0	08/11/16 20:30	
Trichloroethene	ug/L	<0.20	0.40	08/11/16 20:30	
Trichlorofluoromethane	ug/L	<0.33	1.0	08/11/16 20:30	
Vinyl chloride	ug/L	<0.29	0.40	08/11/16 20:30	
Xylene (Total)	ug/L	<0.32	3.0	08/11/16 20:30	
1,2-Dichloroethane-d4 (S)	%.	106	75-125	08/11/16 20:30	
4-Bromofluorobenzene (S)	%.	105	75-125	08/11/16 20:30	
Toluene-d8 (S)	%.	103	75-125	08/11/16 20:30	

LABORATORY CONTROL SAMPLE: 2339728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	18.0	90	75-125	
1,1,1-Trichloroethane	ug/L	20	16.0	80	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	75-128	
1,1,2-Trichloroethane	ug/L	20	19.5	97	75-129	
1,1,2-Trichlorotrifluoroethane	ug/L	20	18.6	93	69-125	
1,1-Dichloroethane	ug/L	20	18.4	92	75-131	
1,1-Dichloroethene	ug/L	20	17.7	88	72-125	
1,1-Dichloropropene	ug/L	20	16.3	82	74-125	
1,2,3-Trichlorobenzene	ug/L	20	19.4	97	68-127	
1,2,3-Trichloropropane	ug/L	20	20.0	100	75-125	
1,2,4-Trichlorobenzene	ug/L	20	17.8	89	70-125	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

LABORATORY CONTROL SAMPLE: 2339728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.6	103	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	43.0	86	74-125	
1,2-Dibromoethane (EDB)	ug/L	20	18.9	94	75-125	
1,2-Dichlorobenzene	ug/L	20	19.8	99	75-125	
1,2-Dichloroethane	ug/L	20	17.4	87	72-129	
1,2-Dichloropropane	ug/L	20	17.1	86	71-129	
1,3,5-Trimethylbenzene	ug/L	20	19.8	99	75-127	
1,3-Dichlorobenzene	ug/L	20	19.0	95	75-125	
1,3-Dichloropropane	ug/L	20	19.3	97	75-125	
1,4-Dichlorobenzene	ug/L	20	19.1	96	75-125	
2,2-Dichloropropane	ug/L	20	15.0	75	71-125	
2-Butanone (MEK)	ug/L	100	88.3	88	58-150	
2-Chlorotoluene	ug/L	20	19.5	97	75-125	
4-Chlorotoluene	ug/L	20	19.9	99	75-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.4	95	72-140	
Acetone	ug/L	100	102	102	69-137	
Allyl chloride	ug/L	20	18.9	94	68-132	
Benzene	ug/L	20	18.2	91	75-125	
Bromobenzene	ug/L	20	20.3	102	75-125	
Bromochloromethane	ug/L	20	19.0	95	75-125	
Bromodichloromethane	ug/L	20	18.7	93	69-128	
Bromoform	ug/L	20	14.6	73	75-125 LO	
Bromomethane	ug/L	20	19.9	100	30-150	
Carbon tetrachloride	ug/L	20	16.8	84	74-125	
Chlorobenzene	ug/L	20	18.8	94	75-125	
Chloroethane	ug/L	20	18.7	94	60-150	
Chloroform	ug/L	20	18.6	93	75-126	
Chloromethane	ug/L	20	18.5	93	46-150	
cis-1,2-Dichloroethene	ug/L	20	18.9	94	75-126	
cis-1,3-Dichloropropene	ug/L	20	17.3	86	75-125	
Dibromochloromethane	ug/L	20	17.0	85	75-125	
Dibromomethane	ug/L	20	18.2	91	72-127	
Dichlorodifluoromethane	ug/L	20	17.1	86	58-135	
Dichlorofluoromethane	ug/L	20	19.3	96	68-149	
Diethyl ether (Ethyl ether)	ug/L	20	19.7	99	66-144	
Ethylbenzene	ug/L	20	18.0	90	75-125	
Hexachloro-1,3-butadiene	ug/L	20	19.7	98	73-125	
Isopropylbenzene (Cumene)	ug/L	20	18.8	94	69-140	
Methyl-tert-butyl ether	ug/L	20	16.3	81	75-126	
Methylene Chloride	ug/L	20	17.7	88	71-130	
n-Butylbenzene	ug/L	20	19.3	97	71-129	
n-Propylbenzene	ug/L	20	18.9	95	71-133	
Naphthalene	ug/L	20	18.7	94	59-137	
p-Isopropyltoluene	ug/L	20	21.0	105	74-127	
sec-Butylbenzene	ug/L	20	19.0	95	66-140	
Styrene	ug/L	20	20.4	102	75-125	
tert-Butylbenzene	ug/L	20	19.1	96	73-129	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

LABORATORY CONTROL SAMPLE: 2339728

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	20	18.1	90	75-125	
Tetrahydrofuran	ug/L	200	229	114	71-129	
Toluene	ug/L	20	17.8	89	75-125	
trans-1,2-Dichloroethene	ug/L	20	15.7	78	75-125	
trans-1,3-Dichloropropene	ug/L	20	17.9	90	75-125	
Trichloroethene	ug/L	20	18.5	93	75-125	
Trichlorofluoromethane	ug/L	20	17.2	86	74-128	
Vinyl chloride	ug/L	20	17.1	85	71-131	
Xylene (Total)	ug/L	60	56.2	94	75-125	
1,2-Dichloroethane-d4 (S)	%.			105	75-125	
4-Bromofluorobenzene (S)	%.			98	75-125	
Toluene-d8 (S)	%.			102	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2341621      2341622

Parameter	Units	MS		MSD		MS Result	% Rec	MSD % Rec	% Rec Limits	Max	
		10358621001	Spike Conc.	Spike Conc.	MS Result					RPD	RPD
1,1,1,2-Tetrachloroethane	ug/L	<0.17	20	20	17.3	21.2	86	106	75-125	20	30
1,1,1-Trichloroethane	ug/L	<0.17	20	20	18.0	22.5	90	112	71-144	22	30
1,1,2,2-Tetrachloroethane	ug/L	<0.22	20	20	20.0	24.8	100	124	75-131	22	30
1,1,2-Trichloroethane	ug/L	<0.15	20	20	19.6	24.1	98	121	75-125	21	30
1,1,2-Trichlorotrifluoroethane	ug/L	<0.32	20	20	18.4	20.3	92	102	75-150	10	30
1,1-Dichloroethane	ug/L	<0.17	20	20	24.0	22.0	120	110	64-150	9	30
1,1-Dichloroethene	ug/L	<0.28	20	20	19.8	25.4	99	127	68-150	25	30
1,1-Dichloropropene	ug/L	<0.23	20	20	17.7	20.3	89	101	68-145	14	30
1,2,3-Trichlorobenzene	ug/L	<0.21	20	20	16.6	20.1	83	100	57-142	19	30
1,2,3-Trichloropropane	ug/L	<0.28	20	20	20.0	24.8	100	124	75-125	21	30
1,2,4-Trichlorobenzene	ug/L	<0.21	20	20	16.1	18.0	81	90	60-135	11	30
1,2,4-Trimethylbenzene	ug/L	<0.18	20	20	18.9	21.8	95	109	67-148	14	30
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	39.1	49.6	78	99	32-137	24	30
1,2-Dibromoethane (EDB)	ug/L	<0.20	20	20	19.2	23.9	96	119	75-125	21	30
1,2-Dichlorobenzene	ug/L	<0.17	20	20	18.7	22.2	93	111	75-125	17	30
1,2-Dichloroethane	ug/L	<0.17	20	20	17.1	21.2	86	106	62-138	21	30
1,2-Dichloropropane	ug/L	<0.22	20	20	17.4	22.2	87	111	62-144	25	30
1,3,5-Trimethylbenzene	ug/L	<0.27	20	20	19.2	22.0	96	110	67-148	13	30
1,3-Dichlorobenzene	ug/L	<0.12	20	20	17.7	20.0	89	100	74-131	12	30
1,3-Dichloropropane	ug/L	<0.096	20	20	19.6	24.4	98	122	75-127	22	30
1,4-Dichlorobenzene	ug/L	<0.21	20	20	18.0	20.8	90	104	74-126	15	30
2,2-Dichloropropane	ug/L	<0.13	20	20	15.6	19.7	78	99	56-146	23	30
2-Butanone (MEK)	ug/L	<1.1	100	100	79.7	101	80	101	47-150	23	30
2-Chlorotoluene	ug/L	<0.30	20	20	19.1	22.2	96	111	74-137	15	30
4-Chlorotoluene	ug/L	<0.26	20	20	19.0	21.4	95	107	72-138	12	30
4-Methyl-2-pentanone (MIBK)	ug/L	<0.43	100	100	88.9	112	89	112	60-147	23	30
Acetone	ug/L	2.4J	100	100	99.9	126	98	123	61-150	23	30

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## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		2341621 2341622												
Parameter	Units	MS		MSD		MS		MSD		% Rec	Limits	RPD	Max RPD	Qual
		10358621001 Result	Spike Conc.	Spike Conc.	MSD Result	% Rec	MSD Result	% Rec	MSD Result	% Rec				
Allyl chloride	ug/L	<0.25	20	20	19.3	23.4	97	117	53-150	19	30			
Benzene	ug/L	0.75J	20	20	17.8	22.5	85	109	52-147	23	30			
Bromobenzene	ug/L	<0.34	20	20	19.8	23.6	99	118	75-129	17	30			
Bromo(chloromethane)	ug/L	<0.19	20	20	18.4	23.1	92	115	72-128	22	30			
Bromodichloromethane	ug/L	<0.24	20	20	18.1	22.6	91	113	65-137	22	30			
Bromoform	ug/L	<0.27	20	20	15.2	19.1	76	95	59-133	23	30			
Bromomethane	ug/L	<0.44	20	20	18.5	24.5	93	123	30-150	28	30			
Carbon tetrachloride	ug/L	<0.20	20	20	17.6	21.5	88	108	73-144	20	30			
Chlorobenzene	ug/L	<0.11	20	20	18.0	21.7	90	109	75-126	19	30			
Chloroethane	ug/L	<0.34	20	20	17.1	21.0	86	105	55-150	21	30			
Chloroform	ug/L	<0.21	20	20	18.7	22.6	93	113	66-143	19	30			
Chloromethane	ug/L	<0.25	20	20	20.3	23.0	101	115	42-150	12	30			
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	17.7	21.6	88	108	65-143	20	30			
cis-1,3-Dichloropropene	ug/L	<0.15	20	20	16.4	20.4	82	102	75-125	22	30			
Dibromochloromethane	ug/L	<0.16	20	20	16.6	20.5	83	103	75-125	21	30			
Dibromomethane	ug/L	<0.19	20	20	18.1	22.5	91	113	66-133	22	30			
Dichlorodifluoromethane	ug/L	<0.23	20	20	18.8	22.0	94	110	74-150	16	30			
Dichlorofluoromethane	ug/L	<0.21	20	20	18.5	22.5	93	112	68-150	19	30			
Diethyl ether (Ethyl ether)	ug/L	<0.19	20	20	18.8	24.7	94	124	57-148	27	30			
Ethylbenzene	ug/L	<0.15	20	20	17.8	20.5	89	102	67-149	14	30			
Hexachloro-1,3-butadiene	ug/L	<0.18	20	20	18.2	21.2	91	106	65-143	15	30			
Isopropylbenzene (Cumene)	ug/L	<0.25	20	20	18.5	22.1	93	111	64-150	18	30			
Methyl-tert-butyl ether	ug/L	<0.15	20	20	20.5	19.7	103	98	71-130	4	30			
Methylene Chloride	ug/L	<0.29	20	20	21.1	22.9	106	114	67-137	8	30			
n-Butylbenzene	ug/L	<0.16	20	20	17.8	19.6	89	98	70-138	10	30			
n-Propylbenzene	ug/L	<0.23	20	20	19.0	21.4	95	107	70-148	12	30			
Naphthalene	ug/L	<0.20	20	20	16.9	20.8	84	104	39-150	21	30			
p-Isopropyltoluene	ug/L	<0.19	20	20	19.3	21.7	96	109	74-138	12	30			
sec-Butylbenzene	ug/L	<0.19	20	20	19.5	22.2	97	111	64-150	13	30			
Styrene	ug/L	<0.29	20	20	19.2	22.7	96	113	75-132	17	30			
tert-Butylbenzene	ug/L	<0.22	20	20	19.7	23.6	99	118	75-138	18	30			
Tetrachloroethene	ug/L	<0.25	20	20	17.8	19.5	89	98	73-136	9	30			
Tetrahydrofuran	ug/L	<1.5	200	200	181	274	90	137	68-142	41	30	R1		
Toluene	ug/L	<0.14	20	20	18.1	22.0	91	110	69-139	19	30			
trans-1,2-Dichloroethene	ug/L	<0.16	20	20	20.5	19.3	103	97	75-135	6	30			
trans-1,3-Dichloropropene	ug/L	<0.15	20	20	17.5	22.2	88	111	66-136	24	30			
Trichloroethene	ug/L	<0.20	20	20	17.7	21.8	89	109	74-135	21	30			
Trichlorofluoromethane	ug/L	<0.33	20	20	18.9	23.5	94	118	75-150	22	30			
Vinyl chloride	ug/L	<0.29	20	20	18.3	22.7	92	114	69-150	22	30			
Xylene (Total)	ug/L	<0.32	60	60	56.0	65.5	93	109	70-147	16	30			
1,2-Dichloroethane-d4 (S)	%.						106	106	75-125					
4-Bromofluorobenzene (S)	%.						102	99	75-125					
Toluene-d8 (S)	%.						105	104	75-125					

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**REPORT OF LABORATORY ANALYSIS**

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430041	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV 465 W
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621010		

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METHOD BLANK: 2339729                          Matrix: Water

Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.17	4.0	08/12/16 05:28	
1,1,1-Trichloroethane	ug/L	<0.17	1.0	08/12/16 05:28	
1,1,2,2-Tetrachloroethane	ug/L	<0.22	1.0	08/12/16 05:28	
1,1,2-Trichloroethane	ug/L	<0.15	1.0	08/12/16 05:28	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.32	1.0	08/12/16 05:28	
1,1-Dichloroethane	ug/L	<0.17	4.0	08/12/16 05:28	
1,1-Dichloroethene	ug/L	<0.28	1.0	08/12/16 05:28	
1,1-Dichloropropene	ug/L	<0.23	1.0	08/12/16 05:28	
1,2,3-Trichlorobenzene	ug/L	<0.21	1.0	08/12/16 05:28	
1,2,3-Trichloropropane	ug/L	<0.28	4.0	08/12/16 05:28	
1,2,4-Trichlorobenzene	ug/L	<0.21	1.0	08/12/16 05:28	
1,2,4-Trimethylbenzene	ug/L	<0.18	1.0	08/12/16 05:28	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	10.0	08/12/16 05:28	
1,2-Dibromoethane (EDB)	ug/L	<0.20	1.0	08/12/16 05:28	
1,2-Dichlorobenzene	ug/L	<0.17	1.0	08/12/16 05:28	
1,2-Dichloroethane	ug/L	<0.17	1.0	08/12/16 05:28	
1,2-Dichloropropane	ug/L	<0.22	4.0	08/12/16 05:28	
1,3,5-Trimethylbenzene	ug/L	<0.27	1.0	08/12/16 05:28	
1,3-Dichlorobenzene	ug/L	<0.12	1.0	08/12/16 05:28	
1,3-Dichloropropane	ug/L	<0.096	1.0	08/12/16 05:28	
1,4-Dichlorobenzene	ug/L	<0.21	1.0	08/12/16 05:28	
2,2-Dichloropropane	ug/L	<0.13	4.0	08/12/16 05:28	
2-Butanone (MEK)	ug/L	<1.1	5.0	08/12/16 05:28	
2-Chlorotoluene	ug/L	<0.30	1.0	08/12/16 05:28	
4-Chlorotoluene	ug/L	<0.26	1.0	08/12/16 05:28	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.43	5.0	08/12/16 05:28	
Acetone	ug/L	1.7J	20.0	08/12/16 05:28	
Allyl chloride	ug/L	<0.25	4.0	08/12/16 05:28	
Benzene	ug/L	<0.16	1.0	08/12/16 05:28	
Bromobenzene	ug/L	<0.34	1.0	08/12/16 05:28	
Bromochloromethane	ug/L	<0.19	1.0	08/12/16 05:28	
Bromodichloromethane	ug/L	<0.24	1.0	08/12/16 05:28	
Bromoform	ug/L	<0.27	10.0	08/12/16 05:28	
Bromomethane	ug/L	<0.44	4.0	08/12/16 05:28	
Carbon tetrachloride	ug/L	<0.20	4.0	08/12/16 05:28	
Chlorobenzene	ug/L	<0.11	1.0	08/12/16 05:28	
Chloroethane	ug/L	<0.34	4.0	08/12/16 05:28	
Chloroform	ug/L	<0.21	1.0	08/12/16 05:28	
Chloromethane	ug/L	<0.25	4.0	08/12/16 05:28	
cis-1,2-Dichloroethene	ug/L	<0.12	1.0	08/12/16 05:28	
cis-1,3-Dichloropropene	ug/L	<0.15	4.0	08/12/16 05:28	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

METHOD BLANK: 2339729                          Matrix: Water  
Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.16	4.0	08/12/16 05:28	
Dibromomethane	ug/L	<0.19	4.0	08/12/16 05:28	
Dichlorodifluoromethane	ug/L	<0.23	1.0	08/12/16 05:28	
Dichlorofluoromethane	ug/L	<0.21	1.0	08/12/16 05:28	
Diethyl ether (Ethyl ether)	ug/L	<0.19	4.0	08/12/16 05:28	
Ethylbenzene	ug/L	<0.15	1.0	08/12/16 05:28	
Hexachloro-1,3-butadiene	ug/L	<0.18	4.0	08/12/16 05:28	
Isopropylbenzene (Cumene)	ug/L	<0.25	1.0	08/12/16 05:28	
Methyl-tert-butyl ether	ug/L	<0.15	1.0	08/12/16 05:28	
Methylene Chloride	ug/L	<0.29	4.0	08/12/16 05:28	
n-Butylbenzene	ug/L	<0.16	1.0	08/12/16 05:28	
n-Propylbenzene	ug/L	<0.23	1.0	08/12/16 05:28	
Naphthalene	ug/L	<0.20	4.0	08/12/16 05:28	
p-Isopropyltoluene	ug/L	<0.19	1.0	08/12/16 05:28	
sec-Butylbenzene	ug/L	<0.19	1.0	08/12/16 05:28	
Styrene	ug/L	<0.29	1.0	08/12/16 05:28	
tert-Butylbenzene	ug/L	<0.22	1.0	08/12/16 05:28	
Tetrachloroethene	ug/L	<0.25	1.0	08/12/16 05:28	
Tetrahydrofuran	ug/L	<1.5	10.0	08/12/16 05:28	
Toluene	ug/L	0.20J	1.0	08/12/16 05:28	
trans-1,2-Dichloroethene	ug/L	<0.16	1.0	08/12/16 05:28	
trans-1,3-Dichloropropene	ug/L	<0.15	4.0	08/12/16 05:28	
Trichloroethene	ug/L	<0.20	0.40	08/12/16 05:28	
Trichlorofluoromethane	ug/L	<0.33	1.0	08/12/16 05:28	
Vinyl chloride	ug/L	<0.29	0.40	08/12/16 05:28	
Xylene (Total)	ug/L	<0.32	3.0	08/12/16 05:28	
1,2-Dichloroethane-d4 (S)	%.	103	75-125	08/12/16 05:28	
4-Bromofluorobenzene (S)	%.	104	75-125	08/12/16 05:28	
Toluene-d8 (S)	%.	107	75-125	08/12/16 05:28	

LABORATORY CONTROL SAMPLE: 2339730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	17.3	87	75-125	
1,1,1-Trichloroethane	ug/L	20	16.5	83	73-125	
1,1,2,2-Tetrachloroethane	ug/L	20	20.9	105	75-128	
1,1,2-Trichloroethane	ug/L	20	19.8	99	75-129	
1,1,2-Trichlorotrifluoroethane	ug/L	20	20.7	103	69-125	
1,1-Dichloroethane	ug/L	20	20.2	101	75-131	
1,1-Dichloroethene	ug/L	20	21.1	105	72-125	
1,1-Dichloropropene	ug/L	20	16.6	83	74-125	
1,2,3-Trichlorobenzene	ug/L	20	19.5	97	68-127	
1,2,3-Trichloropropane	ug/L	20	21.0	105	75-125	
1,2,4-Trichlorobenzene	ug/L	20	19.3	96	70-125	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

LABORATORY CONTROL SAMPLE: 2339730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	21.8	109	75-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.6	85	74-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.1	101	75-125	
1,2-Dichlorobenzene	ug/L	20	21.0	105	75-125	
1,2-Dichloroethane	ug/L	20	17.1	86	72-129	
1,2-Dichloropropane	ug/L	20	17.5	88	71-129	
1,3,5-Trimethylbenzene	ug/L	20	21.8	109	75-127	
1,3-Dichlorobenzene	ug/L	20	19.8	99	75-125	
1,3-Dichloropropane	ug/L	20	20.4	102	75-125	
1,4-Dichlorobenzene	ug/L	20	20.1	100	75-125	
2,2-Dichloropropane	ug/L	20	16.1	81	71-125	
2-Butanone (MEK)	ug/L	100	82.5	82	58-150	
2-Chlorotoluene	ug/L	20	20.9	105	75-125	
4-Chlorotoluene	ug/L	20	20.7	104	75-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.9	93	72-140	
Acetone	ug/L	100	115	115	69-137	
Allyl chloride	ug/L	20	18.2	91	68-132	
Benzene	ug/L	20	18.3	92	75-125	
Bromobenzene	ug/L	20	21.1	106	75-125	
Bromochloromethane	ug/L	20	21.7	109	75-125	
Bromodichloromethane	ug/L	20	18.1	90	69-128	
Bromoform	ug/L	20	14.6	73	75-125 LO	
Bromomethane	ug/L	20	20.9	105	30-150	
Carbon tetrachloride	ug/L	20	17.0	85	74-125	
Chlorobenzene	ug/L	20	19.2	96	75-125	
Chloroethane	ug/L	20	19.6	98	60-150	
Chloroform	ug/L	20	19.0	95	75-126	
Chloromethane	ug/L	20	20.0	100	46-150	
cis-1,2-Dichloroethene	ug/L	20	23.1	116	75-126	
cis-1,3-Dichloropropene	ug/L	20	17.0	85	75-125	
Dibromochloromethane	ug/L	20	16.6	83	75-125	
Dibromomethane	ug/L	20	18.0	90	72-127	
Dichlorodifluoromethane	ug/L	20	17.4	87	58-135	
Dichlorofluoromethane	ug/L	20	19.7	99	68-149	
Diethyl ether (Ethyl ether)	ug/L	20	22.2	111	66-144	
Ethylbenzene	ug/L	20	18.7	93	75-125	
Hexachloro-1,3-butadiene	ug/L	20	20.2	101	73-125	
Isopropylbenzene (Cumene)	ug/L	20	19.3	97	69-140	
Methyl-tert-butyl ether	ug/L	20	17.3	87	75-126	
Methylene Chloride	ug/L	20	17.6	88	71-130	
n-Butylbenzene	ug/L	20	20.5	103	71-129	
n-Propylbenzene	ug/L	20	20.5	103	71-133	
Naphthalene	ug/L	20	20.3	102	59-137	
p-Isopropyltoluene	ug/L	20	22.5	113	74-127	
sec-Butylbenzene	ug/L	20	20.9	105	66-140	
Styrene	ug/L	20	21.1	106	75-125	
tert-Butylbenzene	ug/L	20	20.1	101	73-129	

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**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

**LABORATORY CONTROL SAMPLE:** 2339730

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	20	18.2	91	75-125	
Tetrahydrofuran	ug/L	200	252	126	71-129	
Toluene	ug/L	20	19.2	96	75-125	
trans-1,2-Dichloroethene	ug/L	20	15.6	78	75-125	
trans-1,3-Dichloropropene	ug/L	20	16.7	83	75-125	
Trichloroethene	ug/L	20	18.6	93	75-125	
Trichlorofluoromethane	ug/L	20	17.6	88	74-128	
Vinyl chloride	ug/L	20	17.5	87	71-131	
Xylene (Total)	ug/L	60	59.0	98	75-125	
1,2-Dichloroethane-d4 (S)	%.			104	75-125	
4-Bromofluorobenzene (S)	%.			102	75-125	
Toluene-d8 (S)	%.			107	75-125	

**MATRIX SPIKE & MATRIX SPIKE DUPLICATE:** 2343935 2343936

Parameter	Units	MS		MSD		MS Result	% Rec	MSD % Rec	% Rec Limits	Max		
		10359186001	Spike Conc.	Spike Conc.	MS Result					RPD	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	16.3	13.8	81	69	75-125	16	30	M1
1,1,1-Trichloroethane	ug/L	ND	20	20	18.0	14.5	90	72	71-144	22	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	20.4	16.9	102	85	75-131	18	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.0	16.7	99	82	75-125	18	30	
1,1,2-Trichlorotrifluoroethane	ug/L	ND	20	20	21.7	15.8	109	79	75-150	32	30	R1
1,1-Dichloroethane	ug/L	ND	20	20	22.3	16.0	111	80	64-150	33	30	R1
1,1-Dichloroethene	ug/L	ND	20	20	21.6	17.0	108	85	68-150	24	30	
1,1-Dichloropropene	ug/L	ND	20	20	18.7	14.8	93	74	68-145	23	30	
1,2,3-Trichlorobenzene	ug/L	ND	20	20	19.4	14.8	93	70	57-142	27	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	20.4	17.6	102	88	75-125	14	30	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	20.2	14.4	98	69	60-135	33	30	R1
1,2,4-Trimethylbenzene	ug/L	34.2	20	20	58.3	50.8	121	83	67-148	14	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	39.8	33.2	80	66	32-137	18	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	18.8	16.1	94	80	75-125	16	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	20.1	15.6	100	78	75-125	25	30	
1,2-Dichloroethane	ug/L	ND	20	20	17.6	14.3	86	70	62-138	20	30	
1,2-Dichloropropane	ug/L	ND	20	20	17.4	14.9	87	75	62-144	15	30	
1,3,5-Trimethylbenzene	ug/L	10.1	20	20	31.8	25.5	108	77	67-148	22	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	19.6	14.5	97	72	74-131	30	30	M1
1,3-Dichloropropane	ug/L	ND	20	20	19.3	16.4	97	82	75-127	16	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	19.8	15.2	98	75	74-126	27	30	
2,2-Dichloropropane	ug/L	ND	20	20	12.9	10.6	64	53	56-146	19	30	M1
2-Butanone (MEK)	ug/L	ND	100	100	83.8	71.4	84	71	47-150	16	30	
2-Chlorotoluene	ug/L	ND	20	20	22.1	17.0	111	85	74-137	26	30	
4-Chlorotoluene	ug/L	ND	20	20	20.4	15.4	102	77	72-138	28	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	91.8	78.8	92	79	60-147	15	30	
Acetone	ug/L	ND	100	100	107	119	98	110	61-150	11	30	

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**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Parameter	Units	10359186001		MS		MSD		2343936		% Rec	Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike	Conc.	MS Result	MSD Result	% Rec	MSD % Rec					
Allyl chloride	ug/L	ND	20	20	20	20.7	15.8	103	79	53-150	27	30		
Benzene	ug/L	43.7	20	20	20	61.9	56.0	91	62	52-147	10	30		
Bromobenzene	ug/L	ND	20	20	20	20.0	16.5	100	83	75-129	19	30		
Bromo-chloromethane	ug/L	ND	20	20	20	18.4	15.0	92	75	72-128	21	30		
Bromodichloromethane	ug/L	ND	20	20	20	17.0	14.3	85	71	65-137	18	30		
Bromoform	ug/L	ND	20	20	20	14.6	12.8	73	64	59-133	13	30		
Bromomethane	ug/L	ND	20	20	20	17.4	18.2	87	91	30-150	4	30		
Carbon tetrachloride	ug/L	ND	20	20	20	17.7	13.8	88	69	73-144	25	30	M1	
Chlorobenzene	ug/L	ND	20	20	20	19.0	15.5	95	77	75-126	20	30		
Chloroethane	ug/L	ND	20	20	20	16.9	15.7	84	78	55-150	7	30		
Chloroform	ug/L	ND	20	20	20	18.4	15.4	92	77	66-143	18	30		
Chloromethane	ug/L	ND	20	20	20	18.4	15.3	92	77	42-150	18	30		
cis-1,2-Dichloroethene	ug/L	ND	20	20	20	18.4	14.8	92	74	65-143	22	30		
cis-1,3-Dichloropropene	ug/L	ND	20	20	20	16.0	13.0	80	65	75-125	20	30	M1	
Dibromochloromethane	ug/L	ND	20	20	20	16.2	13.9	81	70	75-125	15	30	M1	
Dibromomethane	ug/L	ND	20	20	20	17.4	14.4	87	72	66-133	19	30		
Dichlorodifluoromethane	ug/L	ND	20	20	20	16.4	13.5	82	67	74-150	20	30	M1	
Dichlorofluoromethane	ug/L	ND	20	20	20	18.5	15.0	92	75	68-150	21	30		
Diethyl ether (Ethyl ether)	ug/L	ND	20	20	20	22.1	17.1	111	85	57-148	26	30		
Ethylbenzene	ug/L	7.8	20	20	20	27.3	22.6	97	74	67-149	19	30		
Hexachloro-1,3-butadiene	ug/L	ND	20	20	20	22.1	17.8	108	86	65-143	21	30		
Isopropylbenzene (Cumene)	ug/L	1.3	20	20	20	22.0	17.6	104	82	64-150	22	30		
Methyl-tert-butyl ether	ug/L	ND	20	20	20	18.3	17.6	90	87	71-130	4	30		
Methylene Chloride	ug/L	ND	20	20	20	19.2	14.7	96	74	67-137	27	30		
n-Butylbenzene	ug/L	2.8	20	20	20	26.6	19.0	119	81	70-138	33	30	R1	
n-Propylbenzene	ug/L	6.1	20	20	20	27.7	22.1	108	80	70-148	22	30		
Naphthalene	ug/L	7.7	20	20	20	25.9	21.8	91	71	39-150	17	30		
p-Isopropyltoluene	ug/L	ND	20	20	20	23.4	17.6	113	84	74-138	28	30		
sec-Butylbenzene	ug/L	1.3	20	20	20	22.8	18.1	107	84	64-150	23	30		
Styrene	ug/L	ND	20	20	20	20.4	16.8	102	83	75-132	20	30		
tert-Butylbenzene	ug/L	ND	20	20	20	22.2	17.3	110	85	75-138	25	30		
Tetrachloroethene	ug/L	ND	20	20	20	18.8	14.3	94	71	73-136	27	30	M1	
Tetrahydrofuran	ug/L	ND	200	200	200	218	210	109	105	68-142	4	30		
Toluene	ug/L	7.1	20	20	20	26.3	22.8	96	79	69-139	14	30		
trans-1,2-Dichloroethene	ug/L	ND	20	20	20	17.2	16.7	86	83	75-135	3	30		
trans-1,3-Dichloropropene	ug/L	ND	20	20	20	16.7	14.3	83	71	66-136	15	30		
Trichloroethene	ug/L	ND	20	20	20	18.0	14.7	90	74	74-135	20	30		
Trichlorofluoromethane	ug/L	ND	20	20	20	17.7	14.7	88	74	75-150	18	30	M1	
Vinyl chloride	ug/L	ND	20	20	20	17.5	14.8	87	74	69-150	16	30		
Xylene (Total)	ug/L	65.6	60	60	60	131	113	109	79	70-147	15	30		
1,2-Dichloroethane-d4 (S)	%.							106	103	75-125				
4-Bromofluorobenzene (S)	%.							104	100	75-125				
Toluene-d8 (S)	%.							104	107	75-125				

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430893	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV 465 W
Associated Lab Samples:	10358621007, 10358621011		

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METHOD BLANK: 2343919 Matrix: Water

Associated Lab Samples: 10358621007, 10358621011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.17	4.0	08/16/16 22:26	
1,1,1-Trichloroethane	ug/L	<0.17	1.0	08/16/16 22:26	
1,1,2,2-Tetrachloroethane	ug/L	<0.22	1.0	08/16/16 22:26	
1,1,2-Trichloroethane	ug/L	<0.15	1.0	08/16/16 22:26	
1,1,2-Trichlorotrifluoroethane	ug/L	<0.32	1.0	08/16/16 22:26	
1,1-Dichloroethane	ug/L	<0.17	1.0	08/16/16 22:26	
1,1-Dichloroethene	ug/L	<0.28	1.0	08/16/16 22:26	
1,1-Dichloropropene	ug/L	<0.23	1.0	08/16/16 22:26	
1,2,3-Trichlorobenzene	ug/L	<0.21	1.0	08/16/16 22:26	
1,2,3-Trichloropropane	ug/L	<0.28	4.0	08/16/16 22:26	
1,2,4-Trichlorobenzene	ug/L	<0.21	1.0	08/16/16 22:26	
1,2,4-Trimethylbenzene	ug/L	<0.18	1.0	08/16/16 22:26	
1,2-Dibromo-3-chloropropane	ug/L	<0.60	10.0	08/16/16 22:26	
1,2-Dibromoethane (EDB)	ug/L	<0.20	1.0	08/16/16 22:26	
1,2-Dichlorobenzene	ug/L	<0.17	1.0	08/16/16 22:26	
1,2-Dichloroethane	ug/L	<0.17	1.0	08/16/16 22:26	
1,2-Dichloropropane	ug/L	<0.22	4.0	08/16/16 22:26	
1,3,5-Trimethylbenzene	ug/L	<0.27	1.0	08/16/16 22:26	
1,3-Dichlorobenzene	ug/L	<0.12	1.0	08/16/16 22:26	
1,3-Dichloropropane	ug/L	<0.096	1.0	08/16/16 22:26	
1,4-Dichlorobenzene	ug/L	<0.21	1.0	08/16/16 22:26	
2,2-Dichloropropane	ug/L	<0.13	4.0	08/16/16 22:26	
2-Butanone (MEK)	ug/L	<1.1	5.0	08/16/16 22:26	
2-Chlorotoluene	ug/L	<0.30	1.0	08/16/16 22:26	
4-Chlorotoluene	ug/L	<0.26	1.0	08/16/16 22:26	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.43	5.0	08/16/16 22:26	
Acetone	ug/L	<2.0	20.0	08/16/16 22:26	
Allyl chloride	ug/L	<0.25	4.0	08/16/16 22:26	
Benzene	ug/L	<0.16	1.0	08/16/16 22:26	
Bromobenzene	ug/L	<0.34	1.0	08/16/16 22:26	
Bromochloromethane	ug/L	<0.19	1.0	08/16/16 22:26	
Bromodichloromethane	ug/L	<0.24	1.0	08/16/16 22:26	
Bromoform	ug/L	<0.27	4.0	08/16/16 22:26	
Bromomethane	ug/L	<0.44	4.0	08/16/16 22:26	
Carbon tetrachloride	ug/L	<0.20	4.0	08/16/16 22:26	
Chlorobenzene	ug/L	<0.11	1.0	08/16/16 22:26	
Chloroethane	ug/L	<0.34	1.0	08/16/16 22:26	
Chloroform	ug/L	<0.21	1.0	08/16/16 22:26	
Chloromethane	ug/L	<0.25	4.0	08/16/16 22:26	
cis-1,2-Dichloroethene	ug/L	<0.12	1.0	08/16/16 22:26	
cis-1,3-Dichloropropene	ug/L	<0.15	4.0	08/16/16 22:26	

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## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

METHOD BLANK: 2343919                          Matrix: Water

Associated Lab Samples: 10358621007, 10358621011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromochloromethane	ug/L	<0.16	4.0	08/16/16 22:26	
Dibromomethane	ug/L	<0.19	4.0	08/16/16 22:26	
Dichlorodifluoromethane	ug/L	<0.23	1.0	08/16/16 22:26	
Dichlorofluoromethane	ug/L	<0.21	1.0	08/16/16 22:26	
Diethyl ether (Ethyl ether)	ug/L	<0.19	4.0	08/16/16 22:26	
Ethylbenzene	ug/L	<0.15	1.0	08/16/16 22:26	
Hexachloro-1,3-butadiene	ug/L	<0.18	1.0	08/16/16 22:26	
Isopropylbenzene (Cumene)	ug/L	<0.25	1.0	08/16/16 22:26	
Methyl-tert-butyl ether	ug/L	<0.15	1.0	08/16/16 22:26	
Methylene Chloride	ug/L	<0.29	4.0	08/16/16 22:26	
n-Butylbenzene	ug/L	<0.16	1.0	08/16/16 22:26	
n-Propylbenzene	ug/L	<0.23	1.0	08/16/16 22:26	
Naphthalene	ug/L	<0.20	4.0	08/16/16 22:26	
p-Isopropyltoluene	ug/L	<0.19	1.0	08/16/16 22:26	
sec-Butylbenzene	ug/L	<0.19	1.0	08/16/16 22:26	
Styrene	ug/L	<0.29	1.0	08/16/16 22:26	
tert-Butylbenzene	ug/L	<0.22	1.0	08/16/16 22:26	
Tetrachloroethene	ug/L	<0.25	1.0	08/16/16 22:26	
Tetrahydrofuran	ug/L	<1.5	10.0	08/16/16 22:26	
Toluene	ug/L	<0.14	1.0	08/16/16 22:26	
trans-1,2-Dichloroethene	ug/L	<0.16	1.0	08/16/16 22:26	
trans-1,3-Dichloropropene	ug/L	<0.15	4.0	08/16/16 22:26	
Trichloroethene	ug/L	<0.20	0.40	08/16/16 22:26	
Trichlorofluoromethane	ug/L	<0.33	1.0	08/16/16 22:26	
Vinyl chloride	ug/L	<0.15	1.0	08/16/16 22:26	
Xylene (Total)	ug/L	<0.32	3.0	08/16/16 22:26	
1,2-Dichloroethane-d4 (S)	%.	94	75-125	08/16/16 22:26	
4-Bromofluorobenzene (S)	%.	101	75-125	08/16/16 22:26	
Toluene-d8 (S)	%.	97	75-125	08/16/16 22:26	

LABORATORY CONTROL SAMPLE: 2343920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	75-125	
1,1,1-Trichloroethane	ug/L	50	51.8	104	73-125	
1,1,2,2-Tetrachloroethane	ug/L	50	49.6	99	75-128	
1,1,2-Trichloroethane	ug/L	50	50.9	102	75-129	
1,1,2-Trichlorotrifluoroethane	ug/L	50	51.6	103	69-125	
1,1-Dichloroethane	ug/L	50	49.9	100	75-131	
1,1-Dichloroethene	ug/L	50	46.8	94	72-125	
1,1-Dichloropropene	ug/L	50	50.8	102	74-125	
1,2,3-Trichlorobenzene	ug/L	50	49.3	99	68-127	
1,2,3-Trichloropropane	ug/L	50	49.9	100	75-125	
1,2,4-Trichlorobenzene	ug/L	50	50.1	100	70-125	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

LABORATORY CONTROL SAMPLE: 2343920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/L	50	51.8	104	75-130	
1,2-Dibromo-3-chloropropane	ug/L	125	121	96	74-125	
1,2-Dibromoethane (EDB)	ug/L	50	52.6	105	75-125	
1,2-Dichlorobenzene	ug/L	50	49.6	99	75-125	
1,2-Dichloroethane	ug/L	50	47.5	95	72-129	
1,2-Dichloropropane	ug/L	50	51.2	102	71-129	
1,3,5-Trimethylbenzene	ug/L	50	48.8	98	75-127	
1,3-Dichlorobenzene	ug/L	50	47.0	94	75-125	
1,3-Dichloropropane	ug/L	50	50.9	102	75-125	
1,4-Dichlorobenzene	ug/L	50	44.9	90	75-125	
2,2-Dichloropropane	ug/L	50	48.5	97	71-125	
2-Butanone (MEK)	ug/L	250	250	100	58-150	
2-Chlorotoluene	ug/L	50	49.1	98	75-125	
4-Chlorotoluene	ug/L	50	47.3	95	75-130	
4-Methyl-2-pentanone (MIBK)	ug/L	250	253	101	72-140	
Acetone	ug/L	250	249	100	69-137	
Allyl chloride	ug/L	50	51.8	104	68-132	
Benzene	ug/L	50	49.8	100	75-125	
Bromobenzene	ug/L	50	52.1	104	75-125	
Bromochloromethane	ug/L	50	53.8	108	75-125	
Bromodichloromethane	ug/L	50	54.6	109	69-128	
Bromoform	ug/L	50	41.5	83	75-125	
Bromomethane	ug/L	50	47.4	95	30-150	
Carbon tetrachloride	ug/L	50	52.8	106	74-125	
Chlorobenzene	ug/L	50	48.9	98	75-125	
Chloroethane	ug/L	50	54.8	110	60-150	
Chloroform	ug/L	50	53.8	108	75-126	
Chloromethane	ug/L	50	50.0	100	46-150	
cis-1,2-Dichloroethene	ug/L	50	48.8	98	75-126	
cis-1,3-Dichloropropene	ug/L	50	52.3	105	75-125	
Dibromochloromethane	ug/L	50	43.9	88	75-125	
Dibromomethane	ug/L	50	52.1	104	72-127	
Dichlorodifluoromethane	ug/L	50	53.3	107	58-135	
Dichlorofluoromethane	ug/L	50	56.0	112	68-149	
Diethyl ether (Ethyl ether)	ug/L	50	50.8	102	66-144	
Ethylbenzene	ug/L	50	47.8	96	75-125	
Hexachloro-1,3-butadiene	ug/L	50	51.8	104	73-125	
Isopropylbenzene (Cumene)	ug/L	50	49.3	99	69-140	
Methyl-tert-butyl ether	ug/L	50	50.7	101	75-126	
Methylene Chloride	ug/L	50	49.2	98	71-130	
n-Butylbenzene	ug/L	50	52.1	104	71-129	
n-Propylbenzene	ug/L	50	47.1	94	71-133	
Naphthalene	ug/L	50	44.7	89	59-137	
p-Isopropyltoluene	ug/L	50	52.5	105	74-127	
sec-Butylbenzene	ug/L	50	47.6	95	66-140	
Styrene	ug/L	50	49.5	99	75-125	
tert-Butylbenzene	ug/L	50	47.1	94	73-129	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

LABORATORY CONTROL SAMPLE: 2343920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/L	50	49.5	99	75-125	
Tetrahydrofuran	ug/L	500	490	98	71-129	
Toluene	ug/L	50	48.3	97	75-125	
trans-1,2-Dichloroethene	ug/L	50	49.4	99	75-125	
trans-1,3-Dichloropropene	ug/L	50	45.0	90	75-125	
Trichloroethene	ug/L	50	51.6	103	75-125	
Trichlorofluoromethane	ug/L	50	59.4	119	74-128	
Vinyl chloride	ug/L	50	50.7	101	71-131	
Xylene (Total)	ug/L	150	144	96	75-125	
1,2-Dichloroethane-d4 (S)	%.			103	75-125	
4-Bromofluorobenzene (S)	%.			100	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2343944 2343945

Parameter	Units	MS		MSD		MS Result	% Rec	MSD % Rec	% Rec Limits	Max		
		10358621007 Result	Spike Conc.	Spike Conc.	MS Result					RPD	RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	<0.17	20	20	25.3	27.5	127	137	75-125	8	30	M1
1,1,1-Trichloroethane	ug/L	<0.17	20	20	26.2	29.0	131	145	71-144	10	30	M1
1,1,2,2-Tetrachloroethane	ug/L	<0.22	20	20	23.1	26.4	116	132	75-131	13	30	M1
1,1,2-Trichloroethane	ug/L	<0.15	20	20	25.3	27.5	126	137	75-125	8	30	M1
1,1,2-Trichlorotrifluoroethane	ug/L	<0.32	20	20	28.9	32.8	145	164	75-150	12	30	M1
1,1-Dichloroethane	ug/L	<0.17	20	20	24.4	26.8	122	134	64-150	10	30	
1,1-Dichloroethene	ug/L	<0.28	20	20	26.4	28.7	132	143	68-150	8	30	
1,1-Dichloropropene	ug/L	<0.23	20	20	26.2	29.4	131	147	68-145	12	30	
1,2,3-Trichlorobenzene	ug/L	<0.21	20	20	22.6	26.0	113	130	57-142	14	30	
1,2,3-Trichloropropane	ug/L	<0.28	20	20	23.5	25.6	118	128	75-125	9	30	M1
1,2,4-Trichlorobenzene	ug/L	<0.21	20	20	22.9	26.3	115	131	60-135	14	30	
1,2,4-Trimethylbenzene	ug/L	30.6	20	20	57.4	62.2	134	158	67-148	8	30	M1
1,2-Dibromo-3-chloropropane	ug/L	<0.60	50	50	54.6	60.0	109	120	32-137	9	30	
1,2-Dibromoethane (EDB)	ug/L	<0.20	20	20	24.8	26.8	124	134	75-125	7	30	M1
1,2-Dichlorobenzene	ug/L	<0.17	20	20	23.6	26.1	118	131	75-125	10	30	M1
1,2-Dichloroethane	ug/L	<0.17	20	20	22.6	25.0	113	125	62-138	10	30	
1,2-Dichloropropane	ug/L	<0.22	20	20	24.8	27.5	124	138	62-144	10	30	
1,3,5-Trimethylbenzene	ug/L	8.2	20	20	33.3	35.4	125	136	67-148	6	30	
1,3-Dichlorobenzene	ug/L	<0.12	20	20	22.9	25.3	115	127	74-131	10	30	
1,3-Dichloropropane	ug/L	<0.096	20	20	24.2	25.9	121	130	75-127	7	30	M1
1,4-Dichlorobenzene	ug/L	<0.21	20	20	21.8	24.3	109	121	74-126	11	30	
2,2-Dichloropropane	ug/L	<0.13	20	20	22.7	25.5	114	127	56-146	11	30	
2-Butanone (MEK)	ug/L	<1.1	100	100	109	124	109	124	47-150	13	30	
2-Chlorotoluene	ug/L	<0.30	20	20	26.3	28.0	131	140	74-137	6	30	M1
4-Chlorotoluene	ug/L	<0.26	20	20	23.5	25.5	117	128	72-138	8	30	
4-Methyl-2-pentanone (MIBK)	ug/L	<0.43	100	100	114	125	114	125	60-147	9	30	
Acetone	ug/L	2.2J	100	100	121	142	119	140	61-150	16	30	

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## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Parameter	Units	10358621007		MSD		2343945		% Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
		Result	Spike Conc.	Spike Conc.	MS	MSD	% Rec						
Allyl chloride	ug/L	<0.25	20	20	20.6	24.1	103	121	53-150	16	30		
Benzene	ug/L	45.9	20	20	71.9	80.3	130	172	52-147	11	30	M1	
Bromobenzene	ug/L	<0.34	20	20	25.7	27.7	128	139	75-129	8	30	M1	
Bromo(chloromethane	ug/L	<0.19	20	20	25.7	28.0	129	140	72-128	8	30	M1	
Bromodichloromethane	ug/L	<0.24	20	20	25.5	28.9	127	145	65-137	13	30	M1	
Bromoform	ug/L	<0.27	20	20	19.7	21.4	98	107	59-133	9	30		
Bromomethane	ug/L	<0.44	20	20	24.6	31.4	123	157	30-150	24	30	M1	
Carbon tetrachloride	ug/L	<0.20	20	20	27.1	31.0	136	155	73-144	14	30	M1	
Chlorobenzene	ug/L	<0.11	20	20	24.1	26.5	121	133	75-126	10	30	M1	
Chloroethane	ug/L	<0.34	20	20	29.5	37.8	147	189	55-150	25	30	M1	
Chloroform	ug/L	<0.21	20	20	25.8	28.7	129	144	66-143	11	30	M1	
Chloromethane	ug/L	<0.25	20	20	21.1	35.5	105	177	42-150	51	30	M1,R1	
cis-1,2-Dichloroethene	ug/L	<0.12	20	20	23.6	26.9	118	134	65-143	13	30		
cis-1,3-Dichloropropene	ug/L	<0.15	20	20	24.3	27.2	122	136	75-125	11	30	M1	
Dibromochloromethane	ug/L	<0.16	20	20	21.2	23.1	106	115	75-125	9	30		
Dibromomethane	ug/L	<0.19	20	20	24.6	27.0	123	135	66-133	9	30	M1	
Dichlorodifluoromethane	ug/L	<0.23	20	20	24.3	31.7	122	158	74-150	26	30	M1	
Dichlorofluoromethane	ug/L	<0.21	20	20	26.1	33.3	130	166	68-150	24	30	M1	
Diethyl ether (Ethyl ether)	ug/L	<0.19	20	20	25.1	27.5	126	138	57-148	9	30		
Ethylbenzene	ug/L	8.1	20	20	32.5	35.4	122	136	67-149	8	30		
Hexachloro-1,3-butadiene	ug/L	<0.18	20	20	25.9	31.0	130	155	65-143	18	30	M1	
Isopropylbenzene (Cumene)	ug/L	1.2	20	20	26.2	28.2	125	135	64-150	7	30		
Methyl-tert-butyl ether	ug/L	<0.15	20	20	23.7	25.8	118	129	71-130	8	30		
Methylene Chloride	ug/L	<0.29	20	20	23.0	26.1	115	131	67-137	13	30		
n-Butylbenzene	ug/L	1.8	20	20	28.2	31.8	132	150	70-138	12	30	M1	
n-Propylbenzene	ug/L	5.3	20	20	29.3	32.4	120	136	70-148	10	30		
Naphthalene	ug/L	4.9	20	20	25.0	28.6	100	118	39-150	13	30		
p-Isopropyltoluene	ug/L	0.44J	20	20	27.5	30.3	135	149	74-138	9	30	M1	
sec-Butylbenzene	ug/L	0.69J	20	20	24.7	27.2	120	133	64-150	10	30		
Styrene	ug/L	<0.29	20	20	24.5	26.4	122	132	75-132	7	30		
tert-Butylbenzene	ug/L	<0.22	20	20	23.9	25.9	120	130	75-138	8	30		
Tetrachloroethene	ug/L	<0.25	20	20	26.3	27.7	132	138	73-136	5	30	M1	
Tetrahydrofuran	ug/L	<1.5	200	200	246	278	123	139	68-142	12	30		
Toluene	ug/L	7.3	20	20	32.2	34.9	125	138	69-139	8	30		
trans-1,2-Dichloroethene	ug/L	<0.16	20	20	25.4	28.0	127	140	75-135	10	30	M1	
trans-1,3-Dichloropropene	ug/L	<0.15	20	20	21.7	23.6	109	118	66-136	8	30		
Trichloroethene	ug/L	<0.20	20	20	26.2	29.3	131	146	74-135	11	30	M1	
Trichlorofluoromethane	ug/L	<0.33	20	20	30.6	40.5	153	202	75-150	28	30	M1	
Vinyl chloride	ug/L	<0.15	20	20	23.3	30.7	116	154	69-150	28	30	M1	
Xylene (Total)	ug/L	64.5	60	60	138	152	122	145	70-147	10	30		
1,2-Dichloroethane-d4 (S)	%.						99	100	75-125				
4-Bromofluorobenzene (S)	%.						102	101	75-125				
Toluene-d8 (S)	%.						99	97	75-125				

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**REPORT OF LABORATORY ANALYSIS**

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430853	Analysis Method:	SM 2510B
QC Batch Method:	SM 2510B	Analysis Description:	2510B Specific Conductance
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

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METHOD BLANK: 2343818                          Matrix: Water  
Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007, 10358621011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	<10.0	10.0	08/16/16 14:58	

---

LABORATORY CONTROL SAMPLE: 2343819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1010	101	90-110	

---

SAMPLE DUPLICATE: 2343820

Parameter	Units	10358347002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1020	1020	0	20	

---

SAMPLE DUPLICATE: 2343821

Parameter	Units	10358621007 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2100	2100	0	20	

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## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430697	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

---

LABORATORY CONTROL SAMPLE: 2343119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

---

SAMPLE DUPLICATE: 2343120

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.2	1	3	H6

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SAMPLE DUPLICATE: 2343121

Parameter	Units	Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.4	0	3	H6

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**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430800	Analysis Method:	SM 4500-S2-D
QC Batch Method:	SM 4500-S2-D	Analysis Description:	4500S2D Sulfide Water
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

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METHOD BLANK: 2343402                          Matrix: Water  
Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007, 10358621011

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfide	mg/L	<0.011	0.10	08/16/16 13:26	

---

LABORATORY CONTROL SAMPLE: 2343403

Parameter	Units	Spike	LCS	LCS	% Rec	Qualifiers
		Conc.	Result	% Rec	Limits	
Sulfide	mg/L	.9	0.89	99	80-120	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2343404                          2343405

Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec	RPD	RPD	Max	
		Result	Spike										Conc.
Sulfide	mg/L	10358621007	Spike	Conc.	.9	.9	0.86	0.82	94	90	80-120	4	20

---

SAMPLE DUPLICATE: 2343406

Parameter	Units	10358621005	Dup	RPD	Max	Qualifiers
		Result	Result			
Sulfide	mg/L	0.022J	0.024J	20		

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**REPORT OF LABORATORY ANALYSIS**

## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430673	Analysis Method:	EPA 8011
QC Batch Method:	EPA 8011	Analysis Description:	GCS 8011 EDB DBCP
Associated Lab Samples:	10358621001, 10358621002, 10358621003, 10358621004, 10358621005, 10358621006, 10358621007, 10358621010, 10358621011		

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METHOD BLANK:	2343037	Matrix:	Water
Associated Lab Samples:	10358621001, 10358621002, 10358621003, 10358621004, 10358621005, 10358621006, 10358621007, 10358621010, 10358621011		

---

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	<0.0016	0.010	08/17/16 23:50	
4-Bromofluorobenzene (S)	%.	102	30-150	08/17/16 23:50	

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LABORATORY CONTROL SAMPLE: 2343038

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.11	0.11	105	60-140	
4-Bromofluorobenzene (S)	%.			103	30-150	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2343039 2343040

Parameter	Units	10358621007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	<0.0016	.1	.11	0.11	0.11	103	102	60-140	0	20	
4-Bromofluorobenzene (S)	%.						48	45	30-150			

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## REPORT OF LABORATORY ANALYSIS

**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

QC Batch:	431923	Analysis Method:	SM 4500-NO3 H
QC Batch Method:	SM 4500-NO3 H	Analysis Description:	SM4500NO3-H, NO <sub>2</sub> + NO <sub>3</sub> pres.
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

METHOD BLANK: 2349006 Matrix: Water  
Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007, 10358621011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	<0.050	0.17	08/24/16 08:54	

LABORATORY CONTROL SAMPLE: 2349007

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	2.5	2.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2349008 2349009

Parameter	Units	10358583039 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	ND	2.5	2.5	0.77	0.74	30	29	80-120	3	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2349010 2349011

Parameter	Units	10358621007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Max RPD	Max Qual
Nitrogen, NO <sub>2</sub> plus NO <sub>3</sub>	mg/L	0.063J	2.5	2.5	2.2	2.2	87	87	80-120	0	30	

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**REPORT OF LABORATORY ANALYSIS**

**QUALITY CONTROL DATA**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

QC Batch:	430263	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

METHOD BLANK: 2340951 Matrix: Water

Associated Lab Samples: 10358621004, 10358621005, 10358621006, 10358621007, 10358621011

Parameter	Units	Blank	Reporting	Analyzed	Qualifiers
		Result	Limit		
Sulfate	mg/L	<1.0	3.5	08/12/16 09:12	

LABORATORY CONTROL SAMPLE & LCSD:	2340952	2340953									
Parameter	Units	Spike	LCS	LCSD	LCS	LCSD	% Rec	% Rec Limits	RPD	Max RPD	Qualifiers
		Conc.	Result	Result	% Rec	% Rec					
Sulfate	mg/L	7.5	7.9	7.8	106	105	80-120	1	20		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2340954	2340955										
Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec Limits	RPD	Max RPD	Qual
		Spike	Spike									
Sulfate	mg/L	390	20	20	398	408	41	92	80-120	3	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:	2340956	2340957											
Parameter	Units	MS	MSD	MS	MSD	MS	MSD	% Rec	% Rec Limits	RPD	Max RPD	Qual	
		Spike	Spike										Conc.
Sulfate	mg/L	10358073002	10358621007	1.1J	20	20	17.6	17.8	82	83	80-120	1	30

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**REPORT OF LABORATORY ANALYSIS**

## QUALITY CONTROL DATA

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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QC Batch:	430036	Analysis Method:	SM 4500-NO2 B
QC Batch Method:	SM 4500-NO2 B	Analysis Description:	SM4500NO2-B, Nitrite, unpres
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

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METHOD BLANK:	2339706	Matrix:	Water
Associated Lab Samples:	10358621004, 10358621005, 10358621006, 10358621007, 10358621011		

---

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrite as N	mg/L	<0.0036	0.012	08/11/16 09:00	

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LABORATORY CONTROL SAMPLE: 2339707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrite as N	mg/L	.3	0.30	100	90-110	

---

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2339708                    2339709

Parameter	Units	MS Result	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
Nitrite as N	mg/L	10358621007	.3	.3	0.30	0.29	99	98	80-120	1	30

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## QUALIFIERS

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor and percent moisture.

LOQ - Limit of Quantitation adjusted for dilution factor and percent moisture.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-MT Pace Analytical Services - Montana

### WORKORDER QUALIFIERS

WO: 10358621

[1] Samples requiring thermal preservation were received outside of recommended temperature limits of 0-6 degrees Celsius.

### ANALYTE QUALIFIERS

1M Low surrogate recovery due to emulsion forming during the extraction process.

AL The lab does not hold A2LA accreditation for this parameter.

B Analyte was detected in the associated method blank.

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H1 Analysis conducted outside the recognized method holding time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results may be biased low.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

M6 Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

R1 RPD value was outside control limits.

S5 Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10358621001	1608TOWERMW16	EPA 8011	430673	EPA 8011	430820
10358621002	1608TOWERMW16D	EPA 8011	430673	EPA 8011	430820
10358621003	1608TOWERMW18D	EPA 8011	430673	EPA 8011	430820
10358621004	1608TOWERMW16E	EPA 8011	430673	EPA 8011	430820
10358621005	1608TOWERMW21	EPA 8011	430673	EPA 8011	430820
10358621006	1608TOWERMW21M	EPA 8011	430673	EPA 8011	430820
10358621007	1608TOWERMW21D	EPA 8011	430673	EPA 8011	430820
10358621010	1608TOWERTB2	EPA 8011	430673	EPA 8011	430820
10358621011	1608TOWEREQB	EPA 8011	430673	EPA 8011	430820
10358621009	1608TOWERIDWSS	EPA 3050	430644	EPA 6020B	431466
10358621004	1608TOWERMW16E	EPA 3020	429937	EPA 6020B	431485
10358621005	1608TOWERMW21	EPA 3020	429937	EPA 6020B	431485
10358621006	1608TOWERMW21M	EPA 3020	429937	EPA 6020B	431485
10358621007	1608TOWERMW21D	EPA 3020	429937	EPA 6020B	431485
10358621011	1608TOWEREQB	EPA 3020	429937	EPA 6020B	431485
10358621004	1608TOWERMW16E	EPA 7470A	432384	EPA 7470A	432584
10358621005	1608TOWERMW21	EPA 7470A	432384	EPA 7470A	432584
10358621006	1608TOWERMW21M	EPA 7470A	432384	EPA 7470A	432584
10358621007	1608TOWERMW21D	EPA 7470A	432384	EPA 7470A	432584
10358621011	1608TOWEREQB	EPA 7470A	430004	EPA 7470A	430622
10358621009	1608TOWERIDWSS	ASTM D2974	430659		
10358621008	1608TOWERTB1	EPA 5035/5030B	430540	EPA 8260B	430866
10358621009	1608TOWERIDWSS	EPA 5035/5030B	430540	EPA 8260B	430866
10358621001	1608TOWERMW16	EPA 8260B	430040		
10358621002	1608TOWERMW16D	EPA 8260B	430040		
10358621003	1608TOWERMW18D	EPA 8260B	430040		
10358621004	1608TOWERMW16E	EPA 8260B	430041		
10358621005	1608TOWERMW21	EPA 8260B	430041		
10358621006	1608TOWERMW21M	EPA 8260B	430041		
10358621007	1608TOWERMW21D	EPA 8260B	430893		
10358621010	1608TOWERTB2	EPA 8260B	430041		
10358621011	1608TOWEREQB	EPA 8260B	430893		
10358621004	1608TOWERMW16E	SM 2510B	430853		
10358621005	1608TOWERMW21	SM 2510B	430853		
10358621006	1608TOWERMW21M	SM 2510B	430853		
10358621007	1608TOWERMW21D	SM 2510B	430853		
10358621011	1608TOWEREQB	SM 2510B	430853		
10358621004	1608TOWERMW16E	SM 4500-H+B	430697		
10358621005	1608TOWERMW21	SM 4500-H+B	430697		
10358621006	1608TOWERMW21M	SM 4500-H+B	430697		
10358621007	1608TOWERMW21D	SM 4500-H+B	430697		
10358621011	1608TOWEREQB	SM 4500-H+B	430697		

**REPORT OF LABORATORY ANALYSIS**

**QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: BERS#34170026; EPA TO 3012 Tow  
Pace Project No.: 10358621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10358621004	1608TOWERMW16E	SM 4500-S2-D	430800		
10358621005	1608TOWERMW21	SM 4500-S2-D	430800		
10358621006	1608TOWERMW21M	SM 4500-S2-D	430800		
10358621007	1608TOWERMW21D	SM 4500-S2-D	430800		
10358621011	1608TOWEREQB	SM 4500-S2-D	430800		
10358621004	1608TOWERMW16E	SM 4500-S H	430947		
10358621005	1608TOWERMW21	SM 4500-S H	430947		
10358621006	1608TOWERMW21M	SM 4500-S H	430947		
10358621007	1608TOWERMW21D	SM 4500-S H	430947		
10358621011	1608TOWEREQB	SM 4500-S H	430947		
10358621004	1608TOWERMW16E	SM 4500-NO3 H	431923		
10358621005	1608TOWERMW21	SM 4500-NO3 H	431923		
10358621006	1608TOWERMW21M	SM 4500-NO3 H	431923		
10358621007	1608TOWERMW21D	SM 4500-NO3 H	431923		
10358621011	1608TOWEREQB	SM 4500-NO3 H	431923		
10358621004	1608TOWERMW16E	ASTM D516	430263		
10358621005	1608TOWERMW21	ASTM D516	430263		
10358621006	1608TOWERMW21M	ASTM D516	430263		
10358621007	1608TOWERMW21D	ASTM D516	430263		
10358621011	1608TOWEREQB	ASTM D516	430263		
10358621004	1608TOWERMW16E	SM 4500-NO2 B	430036		
10358621005	1608TOWERMW21	SM 4500-NO2 B	430036		
10358621006	1608TOWERMW21M	SM 4500-NO2 B	430036		
10358621007	1608TOWERMW21D	SM 4500-NO2 B	430036		
10358621011	1608TOWEREQB	SM 4500-NO2 B	430036		

**REPORT OF LABORATORY ANALYSIS**

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without the written consent of Pace Analytical Services, Inc..



## CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10758621

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: Bristol Environmental Remediation Sv	Report To: Matt Faust	Address: 111 W 16th Ave. Third Floor Anchorage, AK 99501	Copy To: Robert Beckman	Company Name: Bristol Environmental Remediation	REGULATORY AGENCY
Email To: Matt Faust	Purchase Order No.:			Attention: Matt Faust See client info	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER
Phone: 907-743-9346	Fax:	Project Name: Tower Standard LUST Site	Pace Project Manager: Shawn Davis	Pace Profile #:	Site Location: WI STATE: WI
Requested Due Date/TAT: 10 business days		Project Number: BERS# 34170026; EPA TO 3012			

ITEM #	Section D Required Client Information:  <b>SAMPLE ID</b> (A-Z, 0-9, -) Sample IDs MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE/WATER WW PRODUCT P LIQUID/LIQUID SL OIL OIL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes below) SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	Preservatives							Requested Analysis Filtered (Y/N)	
				DATE	TIME	DATE	TIME		# OF CONTAINERS	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> SO <sub>4</sub>	Methanol	Other
1	1608 TOWER MW16	W G	8/8/16 1055	←	9	X	X	X	X	X	X	X	X	X	SW8260 VOCs		
2	1608 TOWER MW16D		1300	←											SW8011 EOB		
3	1608 TOWER MW18A		1330	←											WI DRO		
4	1608 TOWER MW18E		8/9/16 0900	←	13	X X X X X X X									WI GRO		
5	1608 TOWER MW21		1120	←			X X X X X X								H2S SM4500-S2D		
6	1608 TOWER MW21M		1300	←			X X X X X X								B2C		
7	1608 TOWER MW21D		1450	←	20	X X X X X X X									Ground		
8	1608 TOWER MW2B		8/9/16 0930	←	12	X X X X X X									Pb 100%		
9	1608 TOWER TB1	G S	8/3/16 0800	←	2				X							9% moisture	
10	1608 TOWER TB2S	G	8/3/16 0830	←	4	X			X								
11	1608 TOWER TB2	W G	8/8/16 0800	←	6	X X			X								
12																	
ADDITIONAL COMMENTS			RELINQUISHED BY / AFFILIATION		DATE	TIME	ACCEPTED BY / AFFILIATION		DATE	TIME	SAMPLE CONDITIONS						
Report analytical results to the MDL analysis Hold GRO RLSN 10/14 pending PM approval.			Robert Beckman		8/10/16	1000	Shawn Davis / Pace		8/10/16	1223	45	Y	N				

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Robert Beckman
SIGNATURE of SAMPLER:	
DATE Signed (MM/DD/YY): 8/10/16	

\*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-C-020rev.08, 12-Oct-2007

EPA-R5-2017-010506\_0002778

	Document Name: <b>Sample Condition Upon Receipt Form</b> Document No.: F-MN-L-213-rev.16	Document Revised: 04Apr2016 Page 1 of 1 Issuing Authority: Pace Minnesota Quality Office
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<b>Sample Condition Upon Receipt</b>	Client Name:	Project #:
	<u>Bristol Environmental Remediation</u>	<b>WO# : 10358621</b>
Courier:	<input type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input checked="" type="checkbox"/> Client	
<input type="checkbox"/> Commercial	<input type="checkbox"/> Pace <input type="checkbox"/> SpeeDee <input type="checkbox"/> Other: _____	
Tracking Number:		



10358621

Custody Seal on Cooler/Box Present?  Yes     No    Seals Intact?  Yes     No    Optional: Proj. Due Date: \_\_\_\_\_ Proj. Name: \_\_\_\_\_

Packing Material:  Bubble Wrap     Bubble Bags     None     Other: \_\_\_\_\_ Temp Blank?  Yes     No

Thermometer Used:  151401163     B88A912167504     Wet     Blue     None     Samples on ice, cooling process has begun  
 151401164     B88A0143310098

Cooler Temp Read (°C): 4.5/8.5    Cooler Temp Corrected (°C): 4.5/8.5    Biological Tissue Frozen?  Yes     No     N/A

Temp should be above freezing to 6°C

Correction Factor: +0.0    Date and Initials of Person Examining Contents: GS 8/10/16

USDA Regulated Soil (  N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, IA, MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)?  Yes     No including Hawaii and Puerto Rico?  Yes     No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 3.
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 5.
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A 7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A 11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 12.  WT/SL
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 13. <input checked="" type="checkbox"/> HNO <sub>3</sub> <input checked="" type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl Sample # <u>Y1</u> <u>Y1</u> <u>4-8</u>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA Coliform, TOC, Oil and Grease, HPC 8015 (water) DOC	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A 14.
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 15.
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Pace Trip Blank Lot # (if purchased):	<u>062016-3BZA</u>

#### CLIENT NOTIFICATION/RESOLUTION

Field Data Required?  Yes     No

Person Contacted: Matt Faust (email) Date/Time: 8/11/16

Comments/Resolution: \_\_\_\_\_

temperature of one of two coolers received above temp

Project Manager Review: Shannon Davis Date: 8/11/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e. out of hold, incorrect preservative, out of temp, incorrect containers).

# Pace Container Order #157449

## Addresses

### Order By :

Company Bristol Environmental Remediation  
 Contact Faust, Matt  
 Email mfaust@bristol-companies.com  
 Address 111 W. 16th Avenue  
 Address 2  
 City Anchorage  
 State AK Zip 99501  
 Phone (907)743-9346

### Ship To :

Company Quality Inn - Guest Bobby Beckman  
 Contact Beckman, Bobby  
 Email mfaust@bristol-companies.com  
 Address 111 W. 16th Avenue  
 Address 2 8729 US-51  
 City Minocqua  
 State WI Zip 54548  
 Phone (907) 743-9346

### Return To:

Company Pace Analytical Minnesota  
 Contact Davis, Shawn  
 Email shawn.davis@pacelabs.com  
 Address 1700 Elm Street  
 Address 2 Suite 200  
 City Minneapolis  
 State MN Zip 55414  
 Phone 612-607-6378

## Info

Project Name Tower, WI

Due Date 08/03/2016

Profile 35445

Quote

Project Manager Davis, Shawn

Return

Carrier Spee-Dee

Location WI

### Trip Blanks

Include Trip Blanks

### Bottle Labels

Blank  
 Pre-Printed No Sample IDs  
 Pre-Printed With Sample IDs

### Bottles

Boxed Cases  
 Individually Wrapped  
 Grouped By Sample

### Return Shipping Labels

No Shipper Number  
 With Shipper Number

### Misc

Sampling Instructions  
 Custody Seal  
 Temp. Blanks  
 Coolers  
 Syringes

Extra Bubble Wrap  
 Short Hold/Rush Stickers  
 DI Water  Liter(s)  
 USDA Regulated Soils

### COC Options

Number of Blanks

Pre-Printed

# of Samples	Matrix	Test	Container	Total	# of QC	Lot #	Notes
8	WT	VOC by 8260	(3) 40 mL clear glass vials, HCL	30	6	062016-3BZA	
8	WT	EDB 8011	(3) 40 mL clear glass vials, HCL	30	6	062016-3BZA	
8	WT	GRO by WIGRO	None	30	6	062716-3BZA	
8	WT	Sulfate/Nitrate	250mL plastic unpres	8	0	032116-2ALL	
8	WT	Nitrate + Nitrite	None	8	0	051616-4CFX	
8	WT	Metals by 6020	None	8	0	071116-2AFW	
8	WT	DRO by WIDRO	2-1L ambers w/HCL	16	0	071116-1JG	
8	WT	Sulfide by SM4500-S2-D	None	8	0	110215-2BYU	H2S Calculation
1	SL	BTEX by 8260	2 MEOH Vials	2	0	052316-3	
1	SL	6010 - Pb	4oz clear straight side soil jars	1	0	050216-1KM	*
1	SL	Moisture/ Dry weight	2oz plastic dry weight bottle	1	0	051616-5	

### Hazard Shipping Placard In Place : NO

\*Sample receiving hours are Mon-Fri 7:30am-7:00pm and Saturday 8:00am-4:00pm. Special arrangements are made with your project manager.

\*Pace Analytical reserves the right to return hazardous materials.

\*Pace Analytical reserves the right to charge for unused containers as cost associated with sample storage and disposal.

\*Payment term are net 30 days.

\*Please include the proposal number on the chain of custody to insure proper billing.

### Sample Notes

Send 3 sets of water trip blanks, 1 solid trip blank.

Return w/ Samples

Ship Date :

7-29-16

Prepared By:

KG

Verified By:

## Intra-Regional Chain of Custody



Workorder: 10358621 Workorder Name: BERS#34170026; EPA TO 3012 Tow Owner Received Date: 8/10/2016 Due Date: 8/24/2016

Received at:		Send To Lab:		Requested Analysis												
Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700		Pace Analytical Billings MT 150 N Ninth Street Billings, MT 59101 Phone (406)254-7226														
<b>Report To:</b> Shawn Davis																
<b>Item</b> 1 2 3 4 5	<b>Sample ID</b> 1608TOWERMV16E 1608TOWERMV21 1608TOWERMV21M 1608TOWERMV21D 1608TOWERREQB	<b>Sample Type</b> PS PS PS RQS PS	<b>Collect Date/Time</b> 8/9/2016 09:00 8/9/2016 11:20 8/9/2016 13:00 8/9/2016 14:50 8/9/2016 09:30	<b>Lab ID</b> 10358621004 10358621005 10358621006 10358621007 10358621011	<b>Matrix</b> Water Water Water Water Water	<b>Preserved Containers</b> <small>Other</small>										
												<b>LAB USE ONLY</b>				
<b>Comments</b> Transfers      Released By      Date/Time      Received By      Date/Time 1 <i>Shawn Davis/Pace</i> 8-11-16 1340 <i>Shawn Pace</i> 8/12/16 0918 2 <i>Shawn Davis/Pace</i> 8-11-16 1340 <i>Shawn Pace</i> 8/12/16 0918 3 4																
<b>Cooler Temperature on Receipt</b> <u>0.8 °C</u>			<b>Custody Seal</b> <u>Y</u> or <u>N</u>			<b>Received on Ice</b> <u>Y</u> or <u>N</u>			<b>Samples Intact</b> <u>Y</u> or <u>N</u>							

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

<i>Pace Analytical</i>	Document Name: <b>Sample Condition Upon Receipt Form</b>	Document Revised: 04Aug2016 Page 1 of 1
	Document No.: <b>F-MT-C-184-Rev.10</b>	Issuing Authority: Pace Montana Quality Office

<b>Sample Condition Upon Receipt</b>	<b>Client Name:</b> <i>Pace MN</i>	<b>Project #:</b> <i>10358621</i>
Courier:	<input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other:	
Tracking Number:	<i>6751 5818 9169</i>	
Custody Seal on Cooler/Box Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material:	<input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	Temp Blank? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used:	<input checked="" type="checkbox"/> 160285052 <input type="checkbox"/> 140279186	Type of Ice: <input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun <input type="checkbox"/> N/A
Cooler Temp Read:	<i>1.3</i>	
Cooler Temp Corrected:	<i>0.8</i>	
Temp should be above freezing to 6°C		
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Comments: 1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? -Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Containers Intact?	<i>8/12/11</i> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: <i>WT</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
All containers needing acid/base preservation have been checked?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input checked="" type="checkbox"/> NaOH <input type="checkbox"/> HCl Sample # <i>004-007,011</i> <i>+ZnAc</i>
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: <i>Mt</i> Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Pace Trip Blank Lot # (if purchased): <i>N/A</i>		

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?     Yes     No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_  
  
  
  
  

Project Manager Review: *Braum J Davis* Date: *8/12/16*  
Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

## Intra-Regional Chain of Custody



Workorder: 10358621      Workorder Name: BER5#34170026; EPA TO 3012 Tow      Owner Received Date: 8/10/2016      Due Date: 8/24/2016

Received at:		Send To Lab:				Requested Analysis													
Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-1700		Pace Analytical Billings MT 150 N Ninth Street Billings, MT 59101 Phone (406)254-7226																	
Report To: Shawn Davis												LAB USE ONLY							
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers										Comments			
						Other	Unpreserved												
1	1608TOWERMW16E	PS	8/9/2016 09:00	10358621004	Water	X	X	X	X										
2	1608TOWERMW21	PS	8/9/2016 11:20	10358621005	Water	X	X	X	X										
3	1608TOWERMW21M	PS	8/9/2016 13:00	10358621006	Water	X	X	X	X										
4	1608TOWERMW21D	RQS	8/9/2016 14:50	10358621007	Water	X	X	X	X										
5	1608TOWEREQB	PS	8/9/2016 09:30	10358621011	Water	X	X	X	X										

Cooler Temperature on Receipt 1.3 °C      Custody Seal  or N      Received on Ice  or N      Samples Intact  or N

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

	Document Name: <b>Sample Condition Upon Receipt Form</b>	Document Revised: 04Aug2016 Page 1 of 1
	Document No.: <b>F-MT-C-184-Rev.10</b>	Issuing Authority: <b>Pace Montana Quality Office</b>

<b>Sample Condition Upon Receipt</b>	<b>Client Name:</b> <i>Pace MN</i>	<b>Project #:</b> <i>10358621</i>
Courier:	<input checked="" type="checkbox"/> FedEx <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other: _____	
Tracking Number:	<i>6751 5818 9445</i>	
Custody Seal on Cooler/Box Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Seals Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Optional:</b> Proj. Due Date: _____ Proj. Name: _____
Packing Material:	<input checked="" type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input type="checkbox"/> None <input type="checkbox"/> Other: _____	<b>Temp Blank?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
Thermometer Used:	<input checked="" type="checkbox"/> 160285052 <input type="checkbox"/> 140279186	Type of Ice: <input type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None <input type="checkbox"/> Samples on ice, cooling process has begun <input type="checkbox"/> NA
Cooler Temp Read:	<i>1.8</i>	Date and Initials of Person Examining Contents: <i>8/13/16</i>
Cooler Temp Corrected:	<i>1.3</i>	Biological Tissue Frozen? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Comments:		
Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <i>WT</i>		
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl<2; NaOH>9 Sulfide; NaOH>12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample # <i>UA</i>
Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <i>NA</i>		

**CLIENT NOTIFICATION/RESOLUTION**

Field Data Required?  Yes  No

Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments/Resolution: \_\_\_\_\_  
  
  
  
  

Project Manager Review: *Phraem V Janis* Date: *8/15/16*  
Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

**ATTACHMENT 6**  
Data Verification Report

## **DATA VERIFICATION**

Bristol Environmental Remediation Services, LLC (Bristol), prepared this data verification report in accordance with appropriate U.S. Environmental Protection Agency (EPA) procedural guidance documents, evaluating the completeness, correctness, consistency, compliance with method procedures and quality control (QC) requirements, and identification of anomalous data. All laboratory results relate to site investigation activities executed at the Tower Standard Site on the Lac du Flambeau (LDF) Indian Reservation in Lac Du Flambeau, Wisconsin. Bristol performed this work under EPA contract EP W-12-009, Task Order (TO) 3012.

Analytical results for project samples presented in this report were in the laboratory work order below. All analytical results reported to the reporting limit with the exception of 1,1,2,2-tetrachloroethane and chloromethane, which were slightly above the PAL due to laboratory instrument sensitivities. Results of these two analytes were all ND for the project samples.

<b>Sample Data Type (Date collected)</b>	<b>Laboratory WO#</b>
Monitoring well groundwater sampling (August 2016)	10358621 (6 primary samples)
Monitoring well groundwater sampling (August 2016)	10358347 (3 primary samples)

### **AUGUST 2016 MONITORING WELL GROUNDWATER SAMPLE ANALYTICAL DATA QUALITY**

The analytical results for the August 2016 monitoring well groundwater samples were reported in laboratory work orders 10358621 and 10358347. The data met project data quality objectives. In general, the data verification found most data usable as delivered by the analytical laboratory. Some data required qualification, and have been flagged appropriately. Data are presented on the data tables with appropriate qualifiers.

Six primary groundwater samples, one water trip blank (TB) and one rinsate blank were analyzed by Pace Analytical Services (Pace) in Minneapolis, Minnesota. All containers in the

sample coolers were received at the laboratory intact and in acceptable condition. The sample receipt form for laboratory work order 10358621 indicated one of two coolers was received above the sample cooler temperature range of 0-6 degrees Celsius (°C) at 8.5 °C. The other cooler in this work order was received at 4.5 °C—both coolers had been packed by Bristol personnel with similar amounts of ice and following the same procedure. Unfortunately, Pace has no record of which particular samples were associated with the warmer cooler. Pace has informed Bristol that they had some new hires in their sample receiving department who unpacked and sorted the samples before any notes were made. Bristol requested the laboratory to initiate a corrective action, including re-training of personnel. Metals data would not be affected as those tests do not require thermal preservation. Project samples for volatile organic compound results were mostly below detection limits (ND) or less than the limit of quantitation (LOQ). The slight exceedance above the optimal cooler temperature range should not significantly affect the data; therefore, sample results were determined as usable.

### **Hold Time Compliance**

A quality control issue impacted the SM 4500-H-B and SM 4500-NO2 B results. Aqueous samples for WO# 10358621011, 10358621004, 10358621005, 10358621007, 10358621006, and WO# 10358347001, 10358347002, and 10358347003 were analyzed 15 minutes past EPA-required hold time. Nitrite sample 10358621004 was also analyzed past the hold time. These affected samples were flagged H for pH and nitrite analysis, and considered estimated due to hold time exceedances for these analytes. Samples were considered estimated with a potential low bias.

### **Laboratory Quality Assurance (QA)/QC**

Method 8260B: Laboratory control sample (LCS) recovery for bromoform (73%) was below the lower QC criteria. The matrix spike/matrix spike duplicate (MS/MSD) recovery for this

analyte recovered within the QC criteria. All associated project samples have been flagged QL and considered estimated with a potentially low bias. Affected samples include 10358621001, 10358621002, 10358621004, 10358621003, 10358621005, 10358621006, and 10358621010.

Method 8260B: Acetone and toluene were detected in the method blank (MB) for analytical batch 430040 and 430041 and at concentrations greater than limit of detection (LOD), but less than the LOQ. Associated samples were B flagged for high estimated value due to contamination present in the MB. Affected samples include 10358621001, 10358621004, 10358621005, 10358621006, and 10358621010 for acetone. 10358621004, 10358621005, 10358621006, and 10358621010 for toluene.

Method 6020B: Barium, lead, and silver were detected in the MB for batch 429937 at concentrations greater than LOD, but less than the LOQ. Associated sample concentrations greater than LOQ were flagged B for high estimated value due to contamination present in the MB. Affected project samples include: 10358621004, 10358621005, 10358621007, 10358621006, and 10358621011.

Method 6020A: MS/MSD of sample 10358621007 in batch 429937 recovered low for iron and manganese. The LCS met accuracy requirements. Results for iron and manganese were flagged ML for quality issues with potential low bias for this sample.

Method 8260B: MS/MSD relative percent difference (RPD) of parent sample 10358621001 for tetrahydrofuran did not meet QC criteria. The associated parent sample concentration for this analyte was ND, therefore the data was considered unaffected.

Method 8260B: MS/MSD recoveries for several analytes of sample 10358621007 were outside the QC criteria. The MS/MSD RPD for chloromethane was also outside of the QC control limit. The parent sample (10358621007) for these analytes were mostly ND, with the

exception of 1,2,4-trimethylbenzene, benzene, n-propylbenzene, and p-isopropyltoluene. These analytes were flagged MH for quality issue with potential high bias.

Method SM 4500-NO3 H: MS/MSD of parent sample 10358621007 recovery for nitrogen (NO<sub>2</sub> plus NO<sub>3</sub>) was below QC criteria. The LCS met accuracy requirements. Result for this analyte was flagged ML for this sample, and was considered estimated with potentially low bias.

## **Data Summary**

No QC issues resulted in qualifications to the mercury, sulfide as H<sub>2</sub>S (calculated), sulfide and specific conductance data, and the results were usable as reported by the laboratory. The tip blank and rinsate blank results were all less than LOQ, and showed no cross-contamination impact. The field duplicate pair submitted within this sample delivery group was 1608TOWERMW16D and 1608TOWERMW18D. The field duplicate results met precision criteria.

On the basis of this evaluation, the laboratory followed the specified analytical method. The data quality was determined acceptable. Acceptable data are associated with QC data that meet all QC criteria or with QC samples that did not meet QC criteria but data quality objectives (DQOs) were not affected. Data quality meets established DQO established for this project. All data are suitable for their intended use. All reportable results were usable for project purposes.

**ATTACHMENT 7**  
Waste Disposal Paperwork

**LINCOLN COUNTY LANDFILL 715-536-9636**  
Site: N4750 Landfill Lane, Merrill, WI 54452  
Mailing: 801 N Sales St, Ste 201, Merrill, WI 54452  
**OPERATING HOURS:**  
Monday-Friday  
SUMMER (May 1 - Sept. 30) 7:00 am - 4:00 pm  
WINTER (Oct. 1 - Apr. 30) 8:00 am - 4:00 pm  
1st and 3rd Sat. 8:00 am - Noon

DATE: 9/16/2016                    TICKET #: 219530                    Vehicle #:  
Time In: 12:06 PM                Time Out: 12:15 PM

BILL TO: SGS Environmental Contracting, LLC  
HAULER: SGS Environmental Contracting, LLC

JOB : 16 - 61 B - EPA Region 5, Lac du Flambeau  
PO# :

\$25 ton exempt (CON24)      1.57 tn  
Gross: 34540                    Tare: 31400                    Net Weight: 3140

Scale Notes: Charge Transaction

HAVE A NICE DAY!

Customer Signature \_\_\_\_\_  
Weighed By: Administrator

I certify that the waste in this vehicle complies with the Wisconsin Recycling law and the landfill bans. I also agree to pay 1.5% per month Late payment charge after 30 days.